MISSOURI DEMOGRAPHIC AND ECONOMIC PROFILE: 1987 - 2000

A SPECIAL REPORT TO THE MISSOURI OPPORTUNITY 2000 COMMISSION

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INTRODUCTION

In December of 1985, Governor John Ashcroft, through Executive Order 85-21, created the Missouri Opportunity 2000 Commission. With that same action, he appointed Secretary of State Roy Blunt and former St. Louis mayor John Poelker, as co-chairmen of the Commission. In January of 1986, the Governor appointed 28 other individuals to serve as members of the Commission. Those commissioners represent a cross-section of Missouri life including academia, labor, business, civic leaders, volunteers, local government, the state legislature and national government. Their membership also represents the media, health care, both small and large business enterprise, both public and private educational institutions, the agricultural community, and many other experiences common to Missourians.

The Governor specifically charged the Commission to study the future economic development and employment opportunities that would exist for Missourians between now and the year 2000. He requested that they give special attention to the role and contributions of education, health, and quality of life issues as they relate to economic growth and development.

The Division of Budget and Planning within the Office of Administration provided the services of its staff to research issues, to prepare special reports, and support the ongoing research of the project. This special report is an outstanding example of the assistance that has been provided. The Office of Administration has provided clerical and other support functions for the project.

This specific report, **Missouri Demographic and Economic Profile: 1987-2000**, has been of particular benefit to the Commission. Early in the process, it was deemed necessary to have a general and broad understanding of future trends in population, migration, industrial growth, and employment patterns, that would be affecting the economy and other socioeconomic activities of the state throughout the period in question. Ryan Burson, a demographer, and Bill Beach, an economist, who are members of the staff of the Division of Budget and Planning of the Office of Administration were provided to support the staff of the Missouri 2000 project. They spent countless hours researching, analyzing, and preparing data that could be effectively utilized by the Commission. Their efforts culminated in the generation of this report. It has served as a base for future projections considered by the Commission and as an instrument to generate discussion about critical issues and concerns that will have a major impact on employment opportunities and the process of economic development. The Commission is especially grateful for the efforts and capabilities of these two individuals, and for the support that was provided by their supervisors, Tony Moulton, Assistant Director, and Perry McGinnis, Director, Division of Budget and Planning.

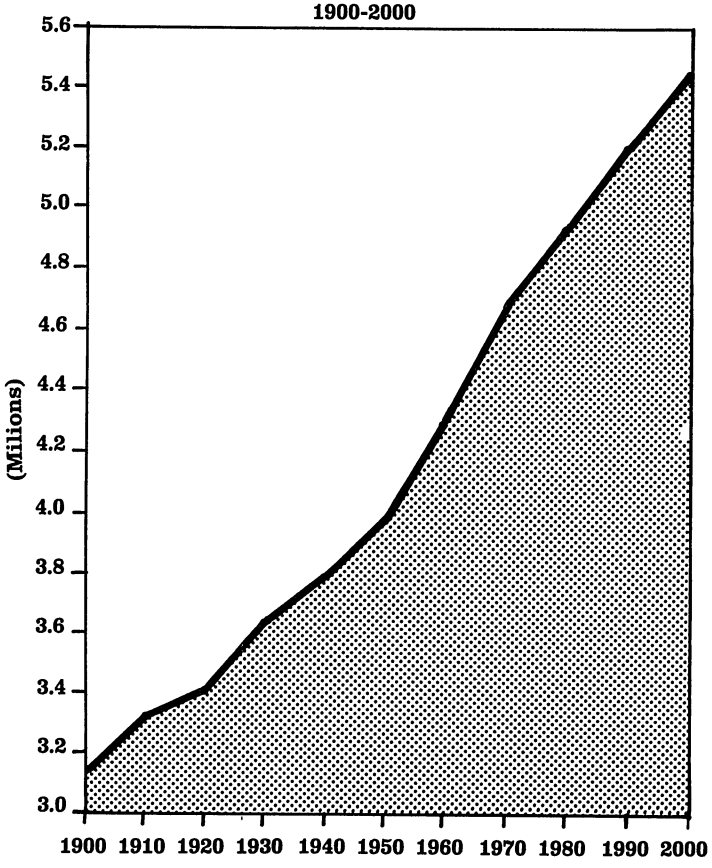
MISSOURI DEMOGRAPHIC PROFILE

Population Size and Growth

Missouri's ranking as the fifteenth most populous state has been sustained through modest, but consistent, growth. The state reached a population of five million persons in 1984—this on the one-hundredth anniversary of Harry Truman's birth, but more than thirty years after the state reached the four-million mark in his final year as president. If assumptions about future fertility, mortality and migration hold, it is likely that it will again take more than thirty years for Missouri to gain another million persons.[1] By the end of this century, the state is expected to grow by over four-hundred thousand persons. Such growth would be sufficient to fill a city the size of present-day St. Louis or Kansas City.

FIGURE 1

MISSOURI POPULATION
1900-2000

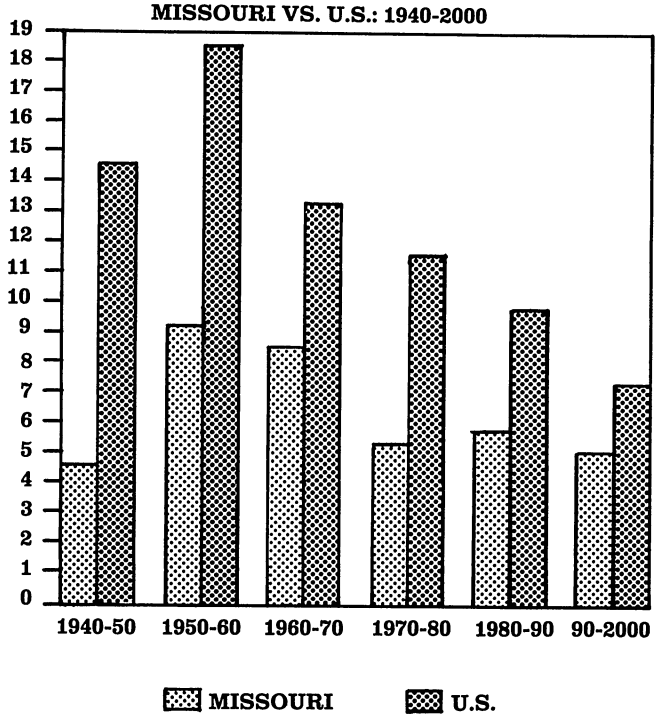


Sources: U.S. Bureau of the Census and Missouri Division of Budget and Planning

Missouri has grown more slowly than the nation over the past fifty years. National growth rates from census to census have ranged from a low of seven percent during the depression years of the 1930s to a high of eighteen percent during the peak baby-boom years of the 1950s. Missouri's rates of growth have been roughly half these. The outlook for the remainder of this century is one of convergence. The national growth rate is expected to fall to 0.6 percent annually in the late 1990s, while the state growth rate is expected to fall to 0.4 percent. More similar migration, mortality and fertility patterns are responsible for this.

FIGURE 2

PERCENT POPULATION CHANGE
MISSOURI VS. U.S.: 1940-2000



Sources: U.S. Bureau of the Census and Missouri Division of Budget and Planning

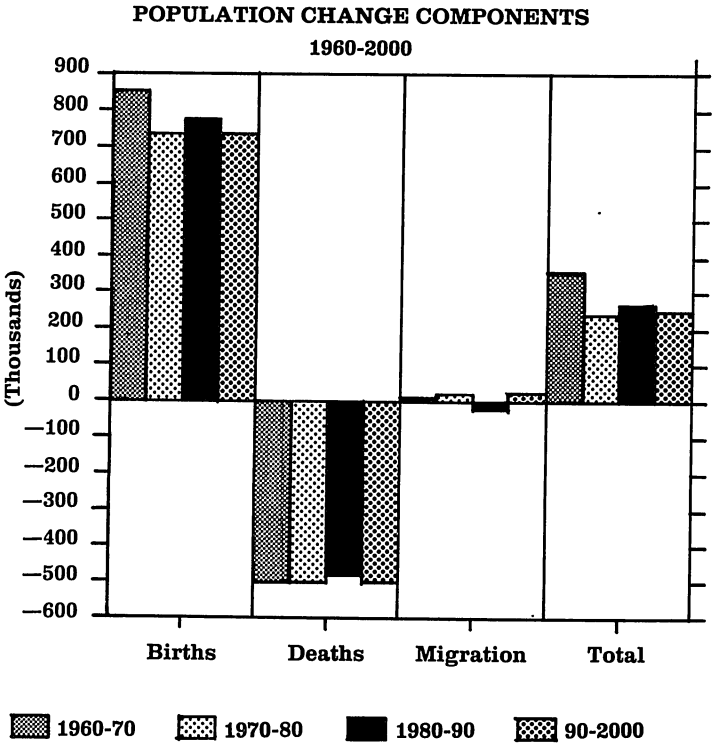
Components of Population Change

Unlike many states, particularly in the Sun Belt, Missouri has gained people less through migration than through natural means (births

minus deaths). From 1930 to the present, the state has actually lost 200 thousand more migrants than it has gained. But net outmigration has been offset by a much larger natural increase of 1.5 million people. Heaviest migration losses occurred in the 1940s and 1950s. Since 1960, Missouri has generally attracted more migrants than it has lost, but these gains have been greatly overshadowed by natural increases. During the 1970s for example, the state experienced a net inmigration of ten thousand persons and a natural increase of a quarter of a million persons.

Projections indicate that there will be a slight migration loss between 1980 and 1990 (thirteen thousand) and a slight migration gain between 1990 and 2000 (twenty-three thousand). Net outmigration in the 1980s would be the result of heavy losses during the recession of 1981-1982 being partially offset by gains experienced afterward during economic recovery. Modest pre-recession levels of net inmigration are projected for the remainder of the century.

FIGURE 3



Sources: U.S. Bureau of the Census and Missouri Division of Budget and Planning

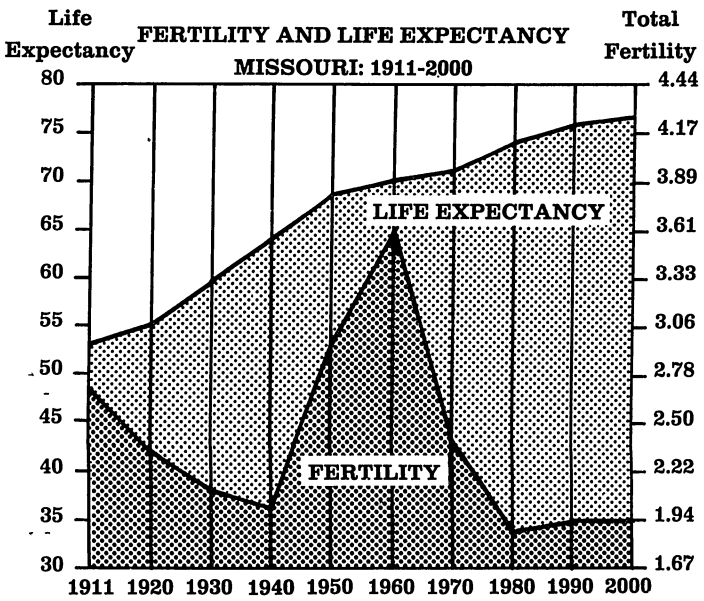
Increasing longevity has kept the number of deaths each year in Missouri at a relatively stable level over the past half century despite a growing population. Annual deaths have ranged from a low of forty-two thousand in 1942 to a high of fifty-two thousand in 1969, and have hovered near fifty thousand since the early 1960s.

Life expectancy at birth has risen steadily from sixty years in 1930 to seventy years in 1960 and today averages seventy-five years, seventy-nine for women and seventy-one for men. Continued improvement in such areas as maternal health care, general health habits and treatment of heart disease should cause longevity to rise even higher, although less dramatically. Life expectancy at birth is expected to rise to just under seventy-seven years by the year 2000. Annual deaths may remain below early-1970s levels until the final years of this century. A significant trend to look for in the second decade of next century will be the entry of the baby-boom cohort into the elderly age brackets. Annual deaths should rise substantially at that time.

Fertility

Fertility has been the fundamental agent of demographic change in Missouri and the nation. To understand recent population change and important demographic issues that loom ahead, one must look at the historic swings in fertility that have occurred over the last fifty years.

FIGURE 4



Sources: Missouri Center for Health Statistics and Division of Budget and Planning

The total fertility rate declined steadily throughout the 1800s and into the early 1900s.[2] The downward trend continued during the Great Depression and reached a then all-time low of 2.0 live births per woman. Annual births in the late 1930s averaged under sixty thousand. The long downward trend in fertility reversed during the prosperous years following World War II. The baby-boom era, which was to last into the early 1960s, brought the annual birth total near one-hundred thousand in the late 1950s. At its peak in 1960, the total fertility rate rose to 3.6 births per woman—the highest rate of this century.

The fertility rate reversed again in the middle 1960s and dropped steadily until the late 1970s. During these baby-bust years, annual births dropped to an average just above seventy thousand. At its low point in 1976—just sixteen years after the baby-boom peak—the lowest fertility rate of the century was recorded at 1.8 births per woman.

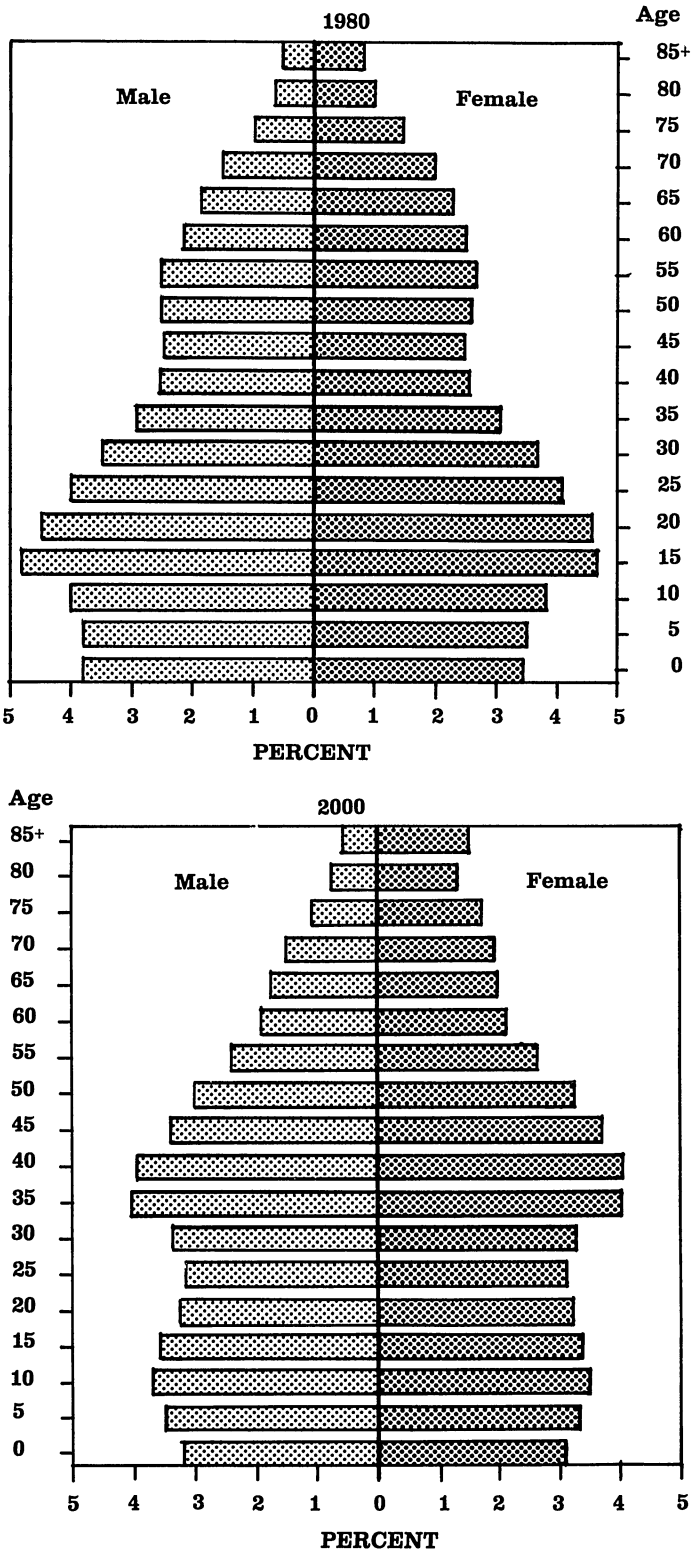
Another minor reversal in fertility began in the early 1980s and is expected to continue into the early 1990s. More appropriately termed a "baby-boom echo" than a "baby boomlet," this trend is less a product of rising fertility rates than it is a product of a larger child-bearing population (primarily baby boomers). Annual births are expected to approach eight thousand in the late 1980s, when the fertility rate is at the near-historic low level of 1.9 births per woman. This rate is expected to hold throughout the 1990s. Factors that might increase fertility, such as earlier and longer marriages, and declining labor force participation and educational attainment among women, do not seem likely. As female baby boomers pass through the child-bearing ages in the late 1990s, annual births should fall to the baby-bust levels of the late 1970s (near seventy thousand per year.)

Age Composition

Historic swings in fertility have transformed Missouri's age profile. A review of changes in the state population pyramid since 1900 illustrates the transformation. In 1900, the pyramid was truly a pyramid, exhibiting a shape typical of less-developed countries today: wide at the base for the younger age groups, progressively narrowing towards the top for the older age groups.

FIGURE 5

POPULATION DISTRIBUTION BY AGE AND SEX
MISSOURI: 1980 AND 2000



Sources: U.S. Bureau of the Census and Missouri Division of Budget and Planning

By 1950, declining mortality rates had produced a proportionately older population. The population pyramid pattern was more akin to an onion dome than a pyramid. At its base, however, was a wide foundation representing the first large post-war birth cohorts. By 1980, the state pyramid had assumed a more rectangular cast, with one exception. Baby-bust cohorts at the bottom of the pyramid were roughly matched by the older age groups in the top half of the pyramid. Bulging at the middle of the pyramid was the large crop of teenagers and young adults born during the baby boom. By 2000, Missouri's elderly age groups, especially those over eighty, will have expanded, while the middle age groups will have gotten smaller.

The state's modest total population growth rate conceals major shifts in its age structure:

— The preschool and elementary school population (ages under 15) increased by thirty-one percent between 1950 and 1970, but decreased by fifteen percent during the 1970s. This group should remain about the same size (1.1 million persons) for the rest of the century.

— The high school and college population (ages 15-24) grew by sixty-four percent between 1950 and 1980. It is expected to shrink by nineteen percent during this decade and then remain relatively constant (0.7 million persons) throughout the 1990s.

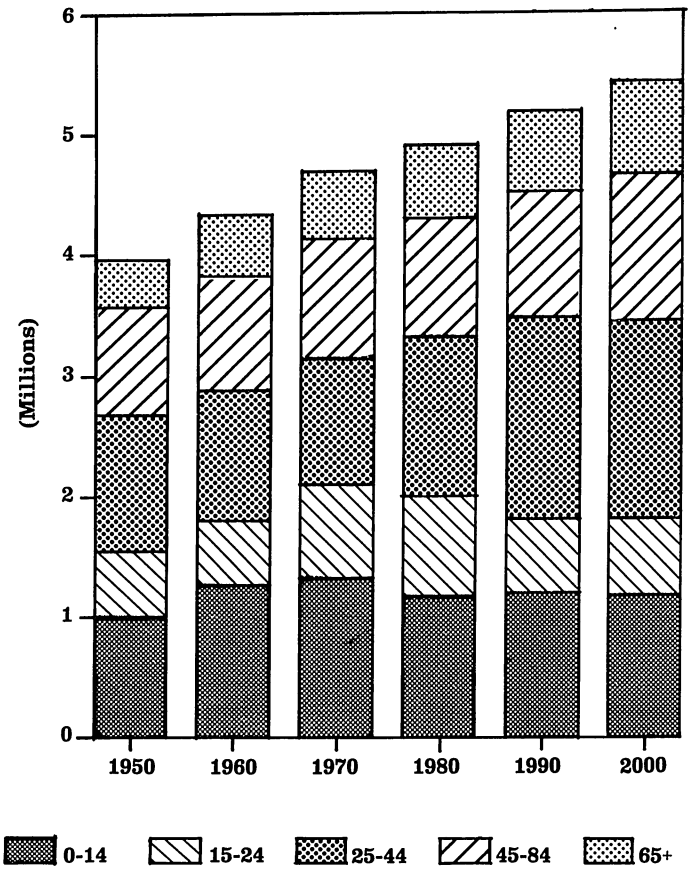
— The early-adult population (ages 25-44) grew slowly between 1950 and 1980, but is expected to grow substantially this decade. By 1990, this age group will consist almost entirely of baby boomers. Its numbers will have swelled by twenty-six percent and will comprise the largest segment of society (1.6 million persons). The age group should shrink somewhat in the 1990s, as older baby boomers enter the upper age brackets.

— The late-adult population (ages 45-64) also grew slowly between 1950 and 1980, and should continue to do so until 1990. Afterwards, the influx of baby boomers should cause it to bulge. The age group is expected to grow by twenty-five percent in the 1990s (to 1.2 million persons).

FIGURE 6

POPULATION AGE COMPOSITION

1950-2000



Sources: U.S. Bureau of the Census and Missouri Division of Budget and Planning

— The elderly population (ages 65 and over) has grown consistently and proportionately more than any other age group since 1950. By 2000, the group is expected to have grown by eighty-seven percent, reaching a total of three-quarters of a million persons and comprising fully fourteen percent of the population.

— The "old" elderly population should grow at even faster rates between now and the year 2000. The seventy-five-and-over group is expected to grow at a rate four times that of the total state population. The eighty-five-and-over should double by century's end (to nearly 120 thousand persons).

— Elderly women are likely to continue to outnumber elderly men by a wide margin. By

2000, there will be an expected sixty-three elderly men for every one hundred elderly women. For those seventy-five and over, a ratio of fifty-one to one hundred is expected. For those eighty-five and over, the forecast is only thirty-six men for every one hundred women.

Labor Force Size and Composition

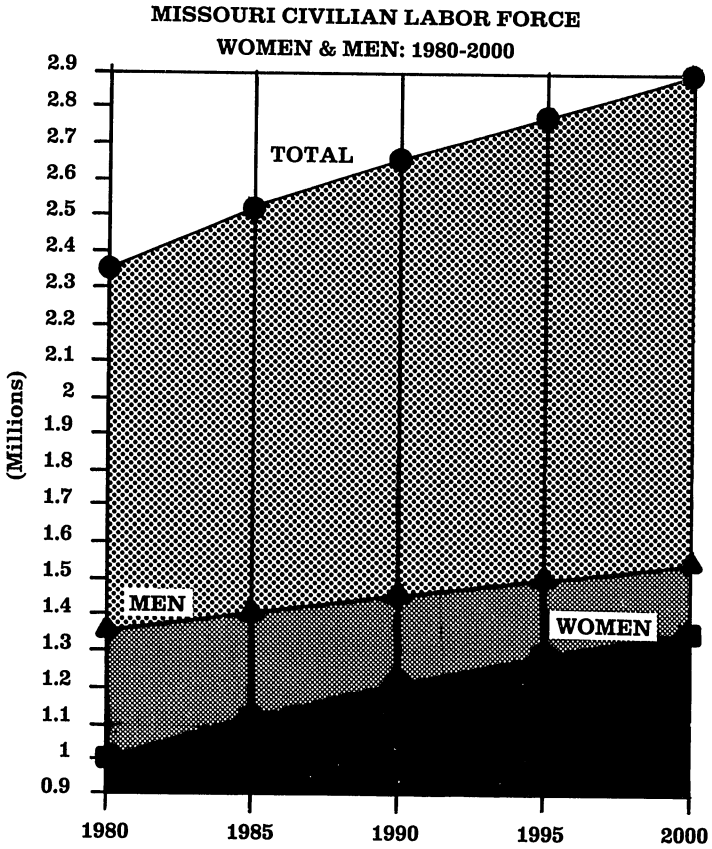
Missouri's labor force numbers just under two and one-half million persons.[3] Two events caused it to grow enormously in recent years, but will also be responsible for much slower growth for the remainder of this century: the historic post-war shifts in fertility and diverging participation by women and men in the labor force. The demographic make-up of the work force will have changed markedly by century's end.

The state's civilian labor force grew by nearly four-hundred thousand persons during the 1970s. The Missouri economy absorbed one new worker for every five workers with which it began the decade. The initial entry of baby boomers into the labor force was partially responsible for this growth. Greater labor force participation by women was also responsible. Forty-three percent of all women over fifteen years of age participated in the work force in 1970. Now over fifty-three percent participate.

Labor force growth is projected to be well below the twenty-percent level recorded between 1970 and 1980. Growth rates are expected to fall to thirteen percent during the 1980s and nine percent during the 1990s.[4] Baby boomers, who were responsible for earlier growth are already in the work force. New entrants into the work force are coming from the baby-bust era. Most growth should come from increasing percentages of women entering the work force. Between 1985 and 2000, the number of female workers is expected to increase by twenty-three percent (to 1.3 million), while the number of male workers is expected to grow by only ten percent (to 1.5 million). Women likely will comprise just under half of the entire labor force in 2000. In contrast, they accounted for less than a third of the work force in 1960. Their participation rate is expected to increase from a current fifty-three percent to sixty percent at the turn of the century.

Another factor contributing to the declining growth rate in the labor force is decreasing participation by men, especially older men. Eighty percent of Missouri men sixteen years of age and over were in the labor force in 1970. The current level is seventy-six percent. By 2000, the percentage is expected to fall below seventy-five percent. More men appear to be taking early retirement. Labor force participation by men in the 55-64 age group has fallen from seventy-nine percent in 1970 to the current level of sixty-eight percent. By 2000, the percentage is expected to fall below sixty-four percent.

FIGURE 7



Sources: U.S. Bureau of Labor Statistics and Missouri Division of Budget and Planning

The age structure of the labor force will undergo pronounced shifts between now and 2000. The passage of the baby-boom cohort through the prime working ages, coupled with the entry of the baby-bust cohort into the teenage and young-adult working ages, will produce a proportionately older labor pool. The number of workers in the 35-54 age group is expected to grow half again as large as it is today—a rate of growth over

three times that of the total labor force. Meanwhile, the number of workers in the under-35 age group is expected to shrink by eight percent. For the age group over fifty-four, declining labor force participation rates will lead to fewer workers despite a growing population.

Future employers may find less-experienced (and lower-salaried) younger workers in shorter supply than their older counterparts. By 2000 seventy-two percent of the labor force will be in the prime working-age group (25-54), up from today's sixty-five percent. In contrast, seventeen percent of the labor force is expected to be in the entry-level age group (under 25), down from twenty-one percent today.

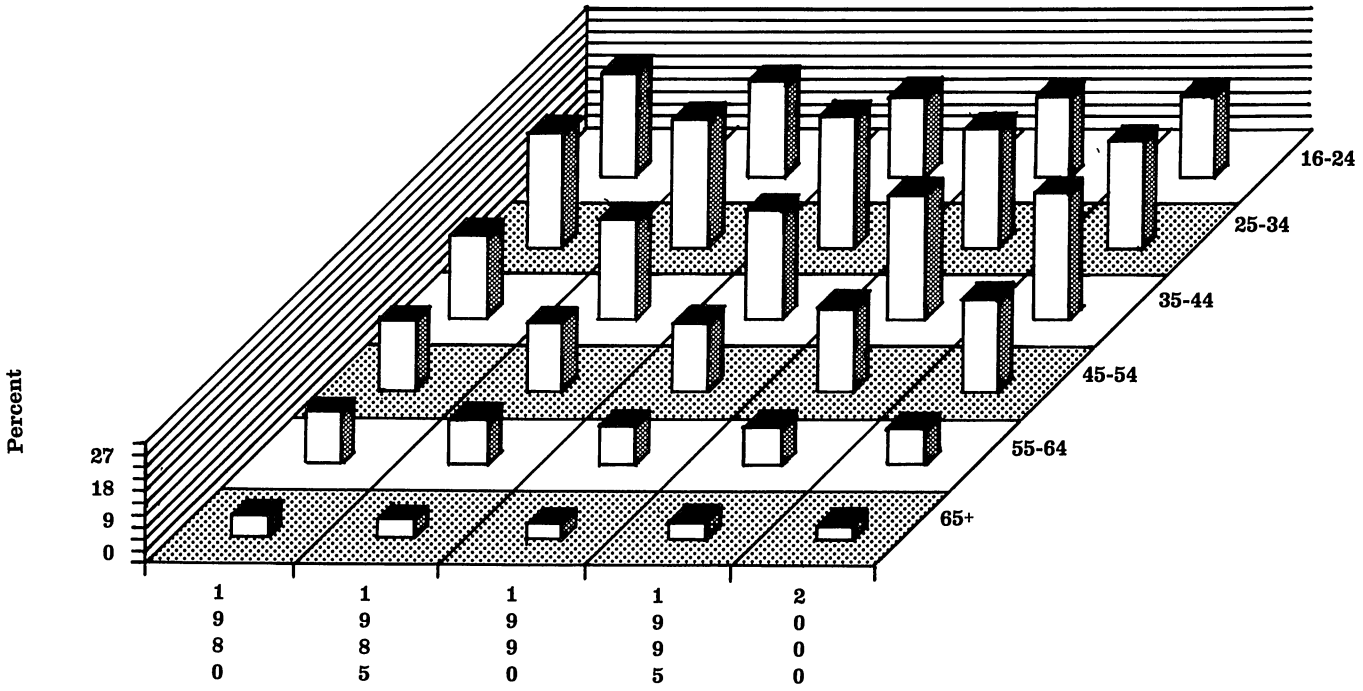
rather than "predictions" because they emphasize what past and current demographic trends portend for the future. Many of the assumptions inherent in the "middle-series" projections will turn out to be either too high or too low fifteen years hence. Nevertheless, massive changes are already under way that would be evident in most any projection scenario. Some implications of the major demographic trends in Missouri are discussed below.

Productivity

A consequence of the baby bust of the late 1960s and 1970s may be a tightening labor market as the century draws to a close. This would affect the roles young workers, baby boomers, the elderly and women play in the Missouri economy.

FIGURE 8

AGE COMPOSITION OF THE LABOR FORCE
MISSOURI: 1980 - 2000



Sources: U.S. Bureau of Labor Statistics and Missouri Division of Budget and Planning

Implications of Demographic Trends

Sketches of future demographic events presented in this report are termed "projections"

Young Workers. The oldest members of the baby-bust cohort recently began entering the labor force. Its youngest members will reach working age in the late 1990s. The cohort may fare better in the labor market than did its large

predecessor, because its members will face less competition from their peers for their first jobs. The military and other employers of young workers may be forced to compete more intensely for baby-bust workers. Such labor market conditions could drive unemployment rates down, particularly for chronically highly unemployed teenagers. A tightened labor market could also drive wages up for these cohorts **and** for older workers.

Baby Boomers. The bulk of this cohort entered the labor force last decade, causing the median age of the labor force to drop to thirty-five in 1980. As the cohort ages, the median age will rise possibly as high as forty by 2000. The older work force should be a more productive one, although two counteracting forces could change labor force participation by older workers. Unprecedented competition for career advancement among the large crop of middle-aged baby boomers may lead to a higher incidence of job stagnation and early retirement. Alternatively, a tighter labor market and higher wages might induce older workers to keep their jobs longer.

The Elderly. Retirement policies and income maintenance programs have encouraged, if not driven, a growing proportion of older persons from the productive side of the Missouri economy. Less than a fifth of elderly men and a tenth of elderly women are in the work force. Although the great majority of older people evidently do not want to work, the trend toward longer and healthier lives after sixty-five makes the option of an extended work life more possible, if not more desirable. Economics will weigh heavily on decisions to remain in the work force. Lower-income elderly persons are much more likely to work than their counterparts. Tight labor markets cight expand elderly labor force participation.

Women. Two of the most significant socio-economic changes in Missouri since World War II have involved women: fertility is lower and labor force participation is higher. These interrelated events are linked to trends in higher education and family composition that appear to have enough momentum to carry into next century. Delayed marriage and childbearing are giving women more time to attend college or gain early work experience. The median age of women at first marriage has risen steadily from just over twenty years in 1950 to over twenty-three years today. (The median age for men has risen to nearly twenty-six years.) For the first time in Missouri history, women outnumber men in state colleges. They accounted for little more than one-third of college enrollments in 1950. National projections indicate that women will increase their share to fifty-two percent in the coming decade.[5]

Women are increasingly balancing dual roles as family providers and mothers. Between 1970 and 1980, the number of two-parent families in Missouri declined slightly, while the number of single-parent families nearly doubled to a total of 115 thousand families. Ninety-six thousand of these families were headed by women with no spouse present—half again as many as in 1970 and fully fifteen percent of all families with children in 1980. Eighty-two percent of these mothers participated in the labor force in 1980. Seventy-one percent did so in 1970.

Many working mothers have small children. National data for 1984 indicate that half of all women aged eighteen to forty-four who gave birth in the preceding twelve months were in the labor force. As recently as 1976, less than one-third of women with infants were in the labor force. The need for child care services has risen accordingly. The number of Missouri establishments providing day care for preschoolers increased from just over five hundred in 1977 to six hundred and fifty in 1982.

The combination of trends toward delayed marriage, rising educational attainment, increasing household headship, and an expanding work history signal continued low fertility and increasing labor force participation among women. Tightening labor markets in the late 1980s and 1990s may feed these trends. Wages could rise sufficiently high to make the opportunity cost of delaying or forgoing jobs greater than the cost of delaying or forgoing parenthood.

Education

The image of baby-boom bulge and baby-bust trough moving up the population pyramid illustrates well the expanding and shrinking demands placed on Missouri's schools and colleges. The youngest members of the baby-boom generation now are in their final years of college, while the less numerous baby-bust generation has just begun to enter college. Members of the baby bust will dominate high school enrollments into the early 1990s, as they did elementary enrollments in the 1970s and early 1980s. Children from the slightly larger baby-boom echo are gradually replacing the baby bust in elementary schools, as

they will in the state's high schools and colleges in the coming decades. Sustained low fertility should produce much less dramatic enrollment fluctuations than occurred in the last three decades. Some effects of demographic change on school enrollments are discussed below. A more detailed prognosis for Missouri enrollments appears in the Appendix.

Elementary Schools. The last of the baby boom passed elementary-school age (5-13) in the late 1970s. Enrollments peaked in 1970, when the elementary age group swelled to 830 thousand children. Afterward, as baby boomers graduated to high school and members of the baby bust came in behind them, the five-to-thirteen age group shrank rapidly. When elementary enrollments began to stabilize in 1983, the elementary-school age group had fallen to 640 thousand children, a loss greater than the number of first and second graders in 1970.

The last of the baby bust will not leave elementary school until the end of this decade. But most of today's elementary students are from the echo generation. This cohort will dominate elementary enrollments for the remainder of the century. The five-to-thirteen age group is expected to increase by thirty-five thousand children (six percent) between now and 1990. In the upcoming decade, the increase should slow to twenty thousand children (three percent).

High Schools. High school enrollments peaked in 1977, when the largest baby-boom birth cohorts were of high-school age (14-17). Nearly 380 thousand teenagers were in this age group. Enrollments dropped steadily thereafter, as baby-bust students began to reach high-school age and baby-boom students began to reach college age. Today, slightly over 300 thousand teenagers are of high-school age, or twenty percent fewer than eight years ago. The prospect remains low until the early 1990s when the youngest members of the baby bust reach college age and the oldest members of the larger baby-boom echo will reach high-school age. Between 1985 and 1990, the age group is expected to decline another ten percent. The influx of the echo generation in the 1990s should cause the high-school-age population to grow again, although at a slow rate. It is expected to regain its 1985 level by century's end.

Colleges. Future trends in college enrollments are less easily assessed than mandatory elementary and secondary enrollments. Part-time attendance is on the rise, and college campuses have a much broader spectrum of students than before. Women and older people are claiming increasing shares of college enrollments. The majority of college students continues to come from the traditional college-age group (18-24). Nearly seven in ten Missouri college students were in this age group in 1981. It is instructive to look at change trends for this age group.

Colleges now face problems that elementary and secondary schools faced in turn before them: baby-bust students are replacing baby-boom students. The baby bust will occupy the traditional college-age group for the remainder of this century. The somewhat larger echo cohort will not reach college age until the late 1990s. College enrollments peaked at just under a quarter of a million students in 1981. At that time there were an estimated 640 thousand eighteen-to-twenty-four-year-olds living in Missouri. Today the group numbers 600 thousand people, or about six percent fewer than in 1981. Enrollments over the same period also fell by about six percent (fifteen thousand students). By 1995, the traditional college-age population is expected to fall to 490 thousand persons, or three-fourths its 1981 level. Incoming echo cohort members in the late 1990s should bring the eighteen-to-twenty-four group back over the half-million mark by century's end—about the same level as in 1970.

The effect on college enrollments is uncertain. State and national forecasts generally show declining enrollments into the 1990s. Projections prepared by the National Center for Education Statistics indicate a five percent decline over the period 1982 to 1992. Projections by the Missouri Coordinating Board for Higher Education indicate even greater decline.[6] Others predict that this will not happen. College enrollments may rise in the late 1980s, as the many children in the small families headed by middle-aged baby boomers will reach college age. Siblings from smaller families have been shown more likely to go to college than children from large families.[7]

Health Care

Missourians have three decades to prepare for sharp increases in the demand for health care associated with an expanding elderly population. Growth in the population aged sixty-five and up will be substantial but undramatic for the remainder of this century, but by the second decade

of next century, there will be a huge influx of baby boomers into the sixty-five-and-up age group. Needs for hospital and nursing home care will rise accordingly, as will needs for rehabilitation and in-home support services.

Health care needs and problems will vary among elderly Missourians because they are far from being a homogeneous group. The oldest old—those eighty-five years of age and over—differ greatly from younger elderly persons both in levels of income and living arrangements. Decennial census data for the U.S. show that the average personal income in 1979 of the oldest old was twenty-five percent lower than that for all elderly persons. This was due mostly to marital status: married couples are generally better off than single people (fuller Social Security and pension benefits), and the oldest old are more likely to be single. Census data reveal that six of every ten householders aged eighty-five and up lived alone, compared to four of every ten in the 65-84 age group.

If the oldest old double in number by 2000 as expected, and if current income and living-arrangement patterns remain intact, much greater stress will be placed on the health care system for the oldest old. With a higher susceptibility to chronic and disabling illness, their need for increasingly expensive care may come at a time when they are less able to pay for it.

Health care problems in the year 2000 will be mostly women's problems. Women over eighty-five will outnumber men over eighty-five by nearly three-to-one. Data from the 1980 census illustrate the make-up of elderly households. Sixty percent of all Missouri households headed by persons eighty-five and over were women. Eight in ten of these women lived alone. Their average personal income was a third less than that of all elderly persons and two-thirds less than that of married elderly persons.

NOTES

[1]Population projections in this report are "middle-series" projections prepared by the Missouri Division of Budget and Planning and the U.S. Bureau of the Census. They are based on assumptions about the most probable courses of fertility, mortality and migration, given historical patterns. See: U.S. Bureau of the Census, *Projections of the Population of the United States, by Age, Sex, and Race: 1983-2080,* Current Population Reports, Series P-25, No. 952, 1984.

[2]The total fertility rate is defined as the average number of births each woman would have if the age-specific birth rates of a given year were to apply throughout her remaining reproductive years.

[3]The civilian labor force consists of non-military persons sixteen years of age and over who are employed, laid off or seeking work. About twenty-five thousand military personnel (one percent of the total work force) are stationed in the state.

[4]Labor force projections are based on middle-series population projections and a projected "middle growth scenario" of labor force participation rates—the percent of each age-sex group working or seeking work—prepared by the U.S. Department of Labor. See: U.S. Bureau of Labor Statistics, *Employment Projections for 1995,* Bulletin 2197, 1984.

[5]See: National Center for Education Statistics, *The Condition of Education,* 1984.

[6]See: *Demographic Trends in Missouri's Population and Enrollment Trends and Projections,* Master Plan III Assessment, Project Report Number Three, June, 1983. Recent enrollments have declined less than projected.

[7]James Gundlach, Auburn University, unpublished paper for Southern Regional Demographic Group, 1984.

MISSOURI ECONOMIC PROFILE

OVERVIEW

Economic life in Missouri traditionally has flourished on a strong agricultural and manufacturing foundation. The state has drawn its agricultural strength from a richly complex crop and livestock industry happily situated in the country's most diverse and active river system. The waterways of the Mississippi Basin have created distinctly differing soils and topographical conditions which, in turn, have led to healthy diversity in the state's agricultural production. Missouri has benefitted from this diversity, and has not, like many states, found itself relying on a small group of products or a handful of crops.

Missouri manufacturers, like their counterparts in agriculture, have used this natural transportation system and rich resource endowment of the state to their considerable advantage. Industrial production developed early along the major waterways, principally in St. Louis and Kansas City, and has provided economic opportunities for Missouri's growing population throughout most of the twentieth century. Missouri manufacturing produces automobiles, chemicals, clothing, aircraft and aerospace products, and a wide array of other goods for domestic and international sale. As in agriculture, industrial diversity produced economic strength. In fact, interaction between these two vital economic sectors during the past one hundred years enabled Missouri to achieve eminence among midwestern states, not only in economic growth, but also in the quality of urban and rural life and in the arts and educational opportunities.

It is increasingly apparent, however, that the Missouri economy has entered a stage of transition. Intensive study beyond the scope of this paper is needed to distinguish trends which promise opportunities from those which pose problems. Still more advanced analysis will be needed to identify actions to capitalize on emerging opportunities and to avert or correct possible problems.

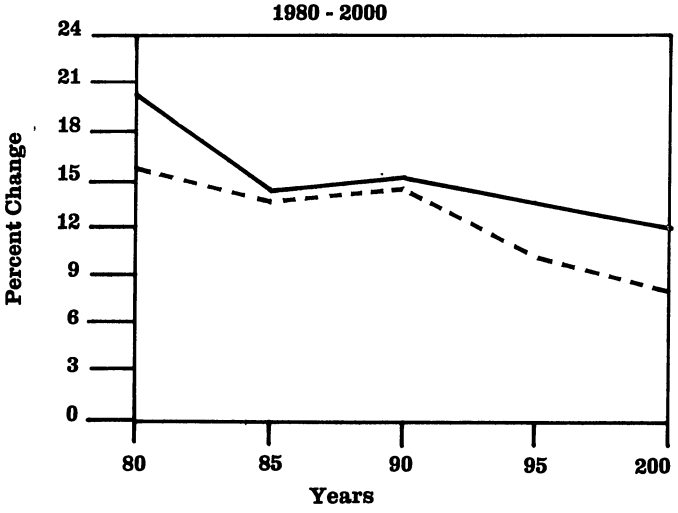
The purpose of this profile is to present a broad overview of trends within the Missouri economy between 1980 and 2000 as a database for the Missouri Opportunity 2000 Commission. The overview rests on employment and income estimates constructed from numerous economic and demographic variables.[1] Like all projections or estimates, those contained in this report are probability statements about future activity. As such, they are proper subjects for debate and further technical exploration.

There is an argument that employment growth, however it may occur, is good: that is, the less unemployment the better. Many economists, however, have voiced concern with the quality of recent employment growth in the United States.[2] Their concern is based largely on trends which appear to emphasize relatively low-paid service sector jobs over better-paid jobs in manufacturing, mining and other more basic industries. These analysts argue that a full-employment economy in which wages are low is not preferable to a high-wage economy with modest unemployment. Others take issue with the empirical basis of this argument and suggest that a structural shift toward service industries and low-paying employment is neither apparent now nor likely in the future.[3]

This overview does not attempt to resolve the current debate regarding long-run, structural change in the national economy. A number of projections and indicators reviewed here suggest that Missouri will continue to prosper. At the same time, other, countervailing trends appear to be at work and may signal an erosion in the ability of Missourians to command increasing levels of goods and services. Projected, long-term patterns in per capita personal income, for example, raise one such warning flag. In 1960, per capita real personal income in Missouri stood at $2,103, second only to Kansas among the Plains states and only 5% below the national average. But, by 1982, Missouri's per capita personal income stood sixth among the seven Plains states at $10,170 and 9% below the national average. Projections conducted for this review indicte that Missouri's nominal per capita personal income could tripple by 2000, but, at that level ($31,450), it would slip to 11% below the national average.[4]

FIGURE 1a

FIVE-YEAR CHANGE RATES IN REAL TOTAL PERSONAL INCOME, U.S. AND MISSOURI
1980 - 2000

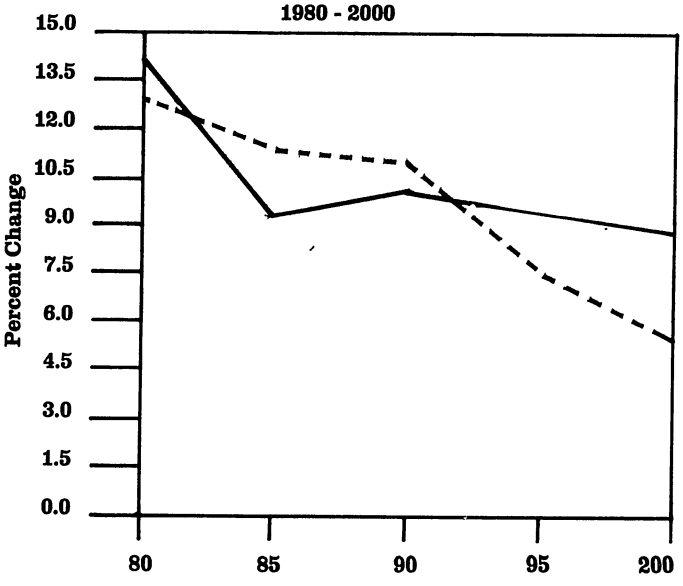


—U.S. -Mo.

Sources: U.S. Bureau of Economic Analysis and Missouri Division of Budget and Planning

FIGURE 2a

FIVE-YEAR CHANGE RATES IN REAL PER CAPITA PERSONAL INCOME, U.S. AND MISSOURI
1980 - 2000



—U.S. -Mo.

Source: U.S. Bureau of Economic Analysis and Missouri Division of Budget and Planning

As shown in Figures 1a and 2a, projections measured in "real" or constant dollars also suggest a decline in Missouri's ability to command goods by 2000. The historical and projected trends of Figures 1a and 2a are based on personal income data corrected for inflation. That is, the data behind Figures 1a and 2a measure only "real" or non-inflationary increases in income.

Figure 1a indicates that Missouri's total real personal income will grow approximately 14% during the period 1985-90, only slightly less than the 15% national growth rate. In terms of per capita real income, Figure 2a shows Missouri's growth exceeding the national growth rate in 1990, as it did in 1985. Both Figures project positive Missouri growth in 2000 but a relative decline compared with national indicators after 1990. Thus the growth in total real personal income in Missouri is projected to decline to 7.97% by 2000, approximately 64% of the national rate, and per capita real income growth in the state to decline by 5.49%, or 62% of the national growth rate.

Several factors may account for the projected slowing in purchasing power growth rates, nationally and in Missouri. Missouri's once expanding agricultural base has been affected by soil erosion, fundamental changes in the domestic and foreign markets for its products and an agricultural financial structure in the process of rapid, and perhaps disruptive, restructuring. The manufacturing sector also is changing. Missouri manufacturers of durable goods see their market shares decreasing in the face of increasing foreign competition. Producers of nondurable goods such as shoes and clothing find it increasingly difficult to compete with foreign producers of the same goods. In addition, a rapidly growing service sector is successfully altering the flow of investment dollars away from manufacturing and agriculture and toward its own financial needs. Projections indicate that by the year 2000 the service sector in Missouri will exceed manufacturing in the number of people employed and will nearly equal manufacturing in the amount of wages generated.

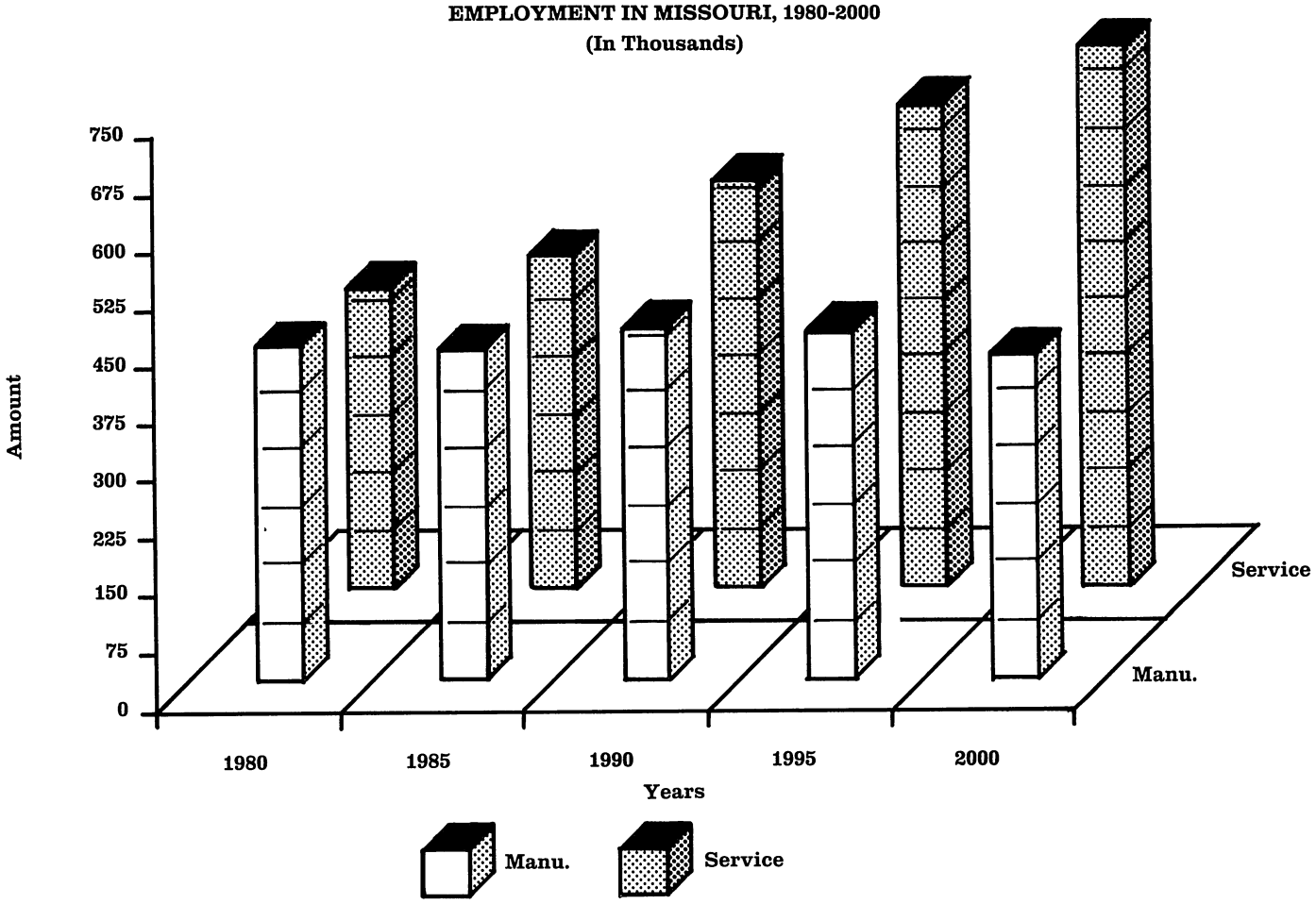
The projected trends in Missouri personal income mirror the national economy but at more acute rates. The root causes almost certainly are similar at both levels. Many economists consider two, crosscutting factors to be responsible at the national level: the decline in agricultural

employment and the decline in manufacturing. During the hundred years prior to 1970, the decline in agricultural employment actually increased overall U.S. productivity. Agriculture traditionally has been a labor intensive industry and the amount of product produced by the average agricultural worker has been less "economically" valuable than that produced by the average manufacturing employee. This disparity in the value of their respective products followed from the positive contribution of capital goods to worker productivity, and thus to wages. Agriculture, with a low capital to labor ratio, initially yielded relatively low wages and agricultural workers migrated to higher paying, manufacturing jobs. Agriculture in turn began substituting capital for labor as workers departed for urban jobs and the national economy thus benefitted in the long-term from increased productivity in both sectors.[5]

Workers continue to leave agriculture today, but a rapidly expanding manufacturing sector is not there to greet them. Instead, the evidence

FIGURE 3a

GROWTH IN MANUFACTURING AND SERVICE EMPLOYMENT IN MISSOURI, 1980-2000
(In Thousands)



Sources: Missouri Division of Budget and Planning and U.S. Bureau of Economic Analysis

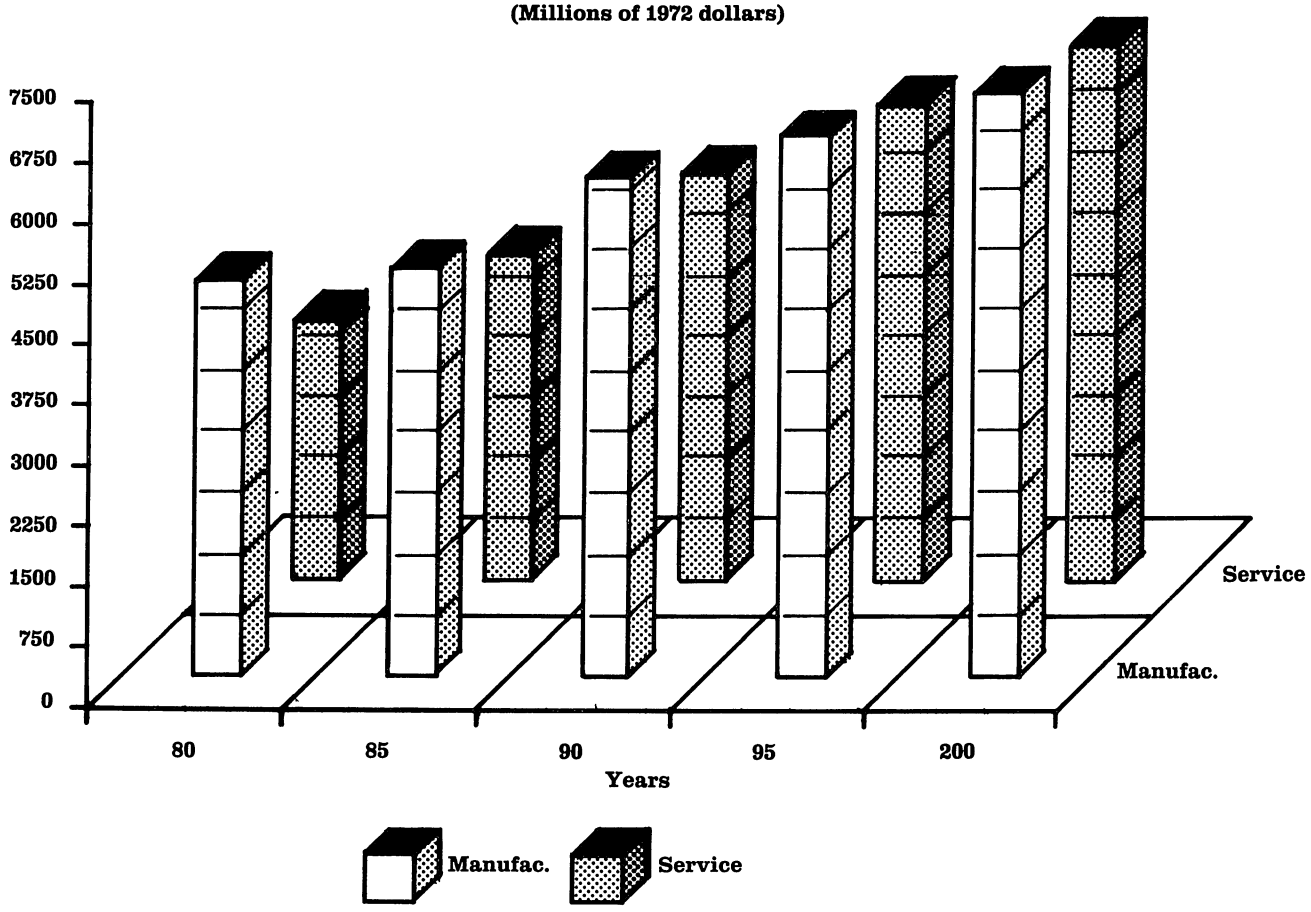
indicates that low paid agricultural workers are increasingly becoming low-paid workers in service-sector or retail jobs. There they join dislocated, formerly high-paid blue collar workers from manufacturing, mining and construction for whom services and retail offer the readiest means of gainful employment.[6]

The number of persons employed in service jobs in Missouri is projected to increase by 82% between 1980 and 2000. While the real earnings of the entire service sector, according to this scenario, will increase 101% during the same time period, the per worker earnings will increase only 15.7%. Figures 3a and 4a illustrate these increases.[7]

Manufacturing, on the other hand, is projected to experience a much different pattern of growth over the next 15 years: with real earnings of the entire sector increasing only 45%, and the number of persons employed falling 2.3%. Per capita earnings, on the other hand, should grow by 66.8% in the durable trades and by 30.9% in the non-durable manufacturing portion of this sector. Transportation and public utility companies,

FIGURE 4a

SERVICE AND MANUFACTURING EARNINGS IN MISSOURI, 1980-2000
(Millions of 1972 dollars)



Sources: U.S. Bureau of Economic Analysis and Missouri Division of Budget and Planning

which have always shared a similar pattern of development with manufacturing, also are expected to yield employment shares to services, the transportation, communication and utilities sector experiencing an employee earnings growth of 53% between 1980 and 2000, but growing in total employment by only 3%.

Should these projections prove accurate, middle income jobs would grow at a much slower pace than lower income jobs and we would see the middle class shrinking in relative size.[8]

The projections developed for this report indicate that the historical priority of manufacturing will be displaced not only by services, but also by rapidly growing retail and wholesale sectors. Table 1 shows the forecast change in ranking of the top five nonagricultural sectors between 1980 and 2000 according to their shares of total nonagricultural employment.

TABLE 1

RANKINGS OF THE TOP FIVE NONAGRICULTURAL SECTORS BY EMPLOYMENT IN MISSOURI 1980 AND 2000

Sector	Rank 1980	Rank 2000
Manufacturing	1	3
Service	2	1
Government	3	4
Retail	4	2
Transportation and Utilities	5	7*

*behind wholesale (#5) and finance, insurance and real estate (#6)

Table 1 strongly suggests a basic restructuring of economic activity in Missouri, a reordering consistent with projected changes in the sources of state personal income. The changes in employment growth in Table 1 are roughly paralelled by changes in earnings, or wages and salaries. It is, indeed, in the recomposition of earnings that a new, emerging structure would have its greatest effect.

The projected changes in Missouri's economic structure are reviewed in the next three sections. Employment trends will be surveyed first, followed by predicted changes in earnings and in the relative cost of doing business in the state.

EMPLOYMENT TRENDS

Changes over time in the number of persons employed in an industry provide a good perspective on that industry's economic prospects. This view is improved when employment developments in an industry or economic sector are examined in the context of changes in wages and salaries. A still better view is obtained when the changes in employment and earnings are expressed in terms of workers' annual earnings. One hopes by so refining the perspective to capture in some degree the extent to which employment and earnings developments reflect change in the use of machinery and capital and in the responsiveness of an industry or sector to market demand.

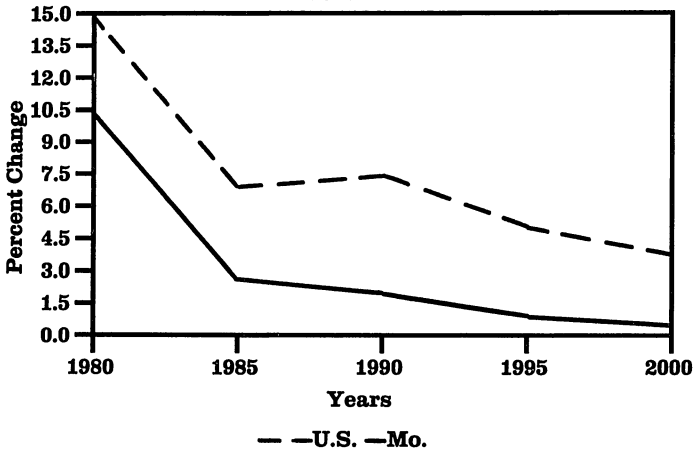
The terrain through which one must first pass, however, is employment. The types of employee skills which are in demand indicate business's response to consumer buying behavior, and at what levels those skills are employed supplies extremely useful data for assessing the shape of Missouri's economy over the next 15 years.

In the broadest sense, the major characteristic of employment change over the 20 years between 1980 and 2000 is declining rates of growth. In Missouri, as in the United States generally, the preceding period, 1975 to 1980, registered a greater change in employment than is projected for any of the four periods under examination in this paper. Thereafter, the percentage growth in total employment declines precipitously: in Missouri projected rates of state employment growth drop from 2.76% between 1980 and 1985 to 0.7% between 1995 and 2000, compared with projected population growth rates for these periods of 2.28% and 2.12%; in the U.S., the comparable rates of employment growth are 6.96% from 1980 to 1985 and 4.05% from 1995 to 2000, while the nation's population is expected to grow 5.13% and 3.23% for these same periods.

This overall decline in the rates of total employment growth in part stems from the aging of the American population, or, what is nearly the same thing, the passage of the post-World War II

FIGURE 5a

PERCENTAGE CHANGE IN U.S. AND MISSOURI TOTAL EMPLOYMENT 1980-2000



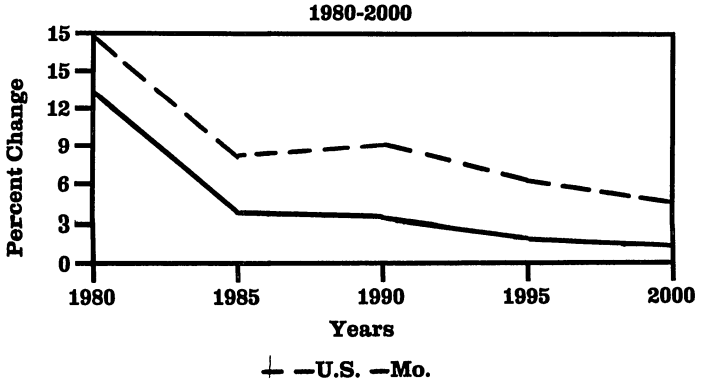
Sources: Missouri Division of Budget and Planning and the National Planning Association

cohort out of the labor force. This demographic factor must be viewed as a major force depressing the U.S. change rates. Nevertheless, the rates of change are substantially lower in Missouri than in the U.S. over the period, and this difference suggests that factors in addition to the demographic ones are at work. These factors are discussed below.

Another view of Missouri's relative change rates is provided when total employment is broken out into its two, principal components: agricultural and nonagricultural employment.

FIGURE 6a

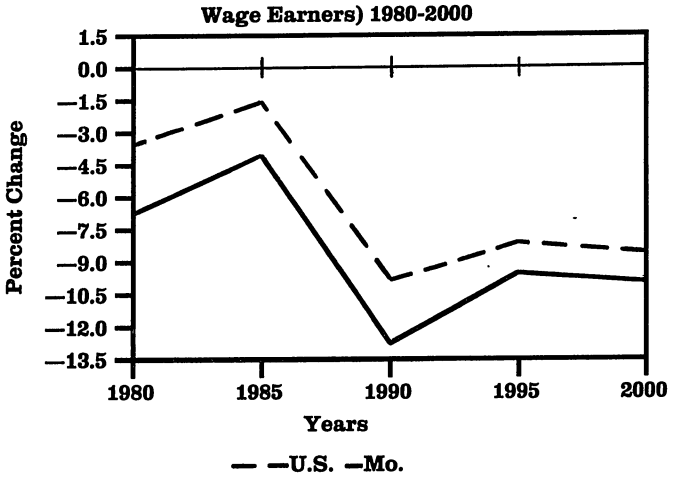
PERCENTAGE CHANGE IN U.S. AND MISSOURI TOTAL NONAGRICULTURAL EMPLOYMENT 1980-2000



Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 7a

PERCENTAGE CHANGE IN U.S. AND MISSOURI AGRICULTURAL EMPLOYMENT (Proprietors and Wage Earners) 1980-2000



Sources: Missouri Division of Budget and Planning and the National Planning Association

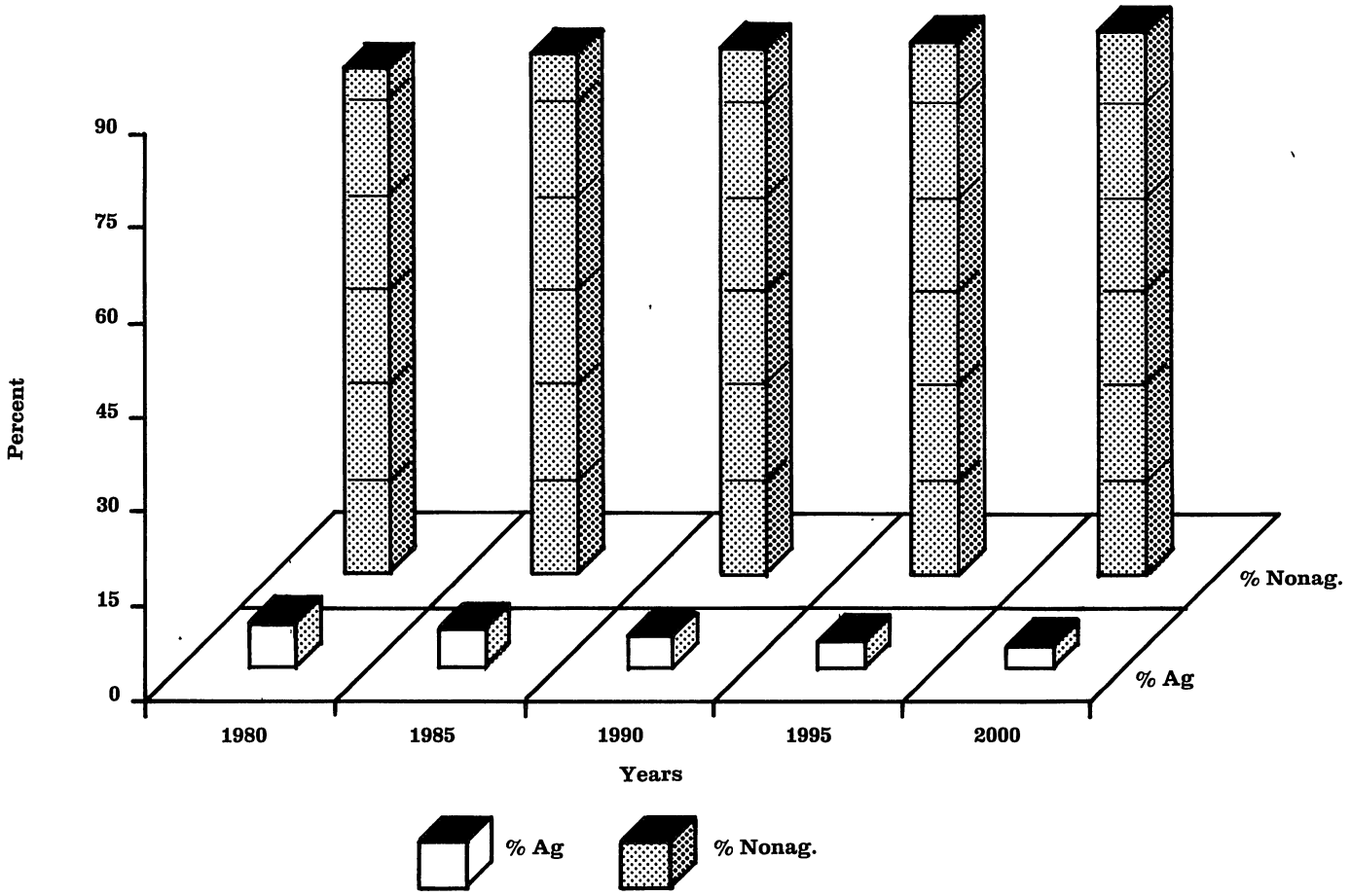
Nearly all working Missourians are "nonagricultural" employees. It is here that we find those who work in such diverse areas as agricultural services, mining, construction, durable and nondurable manufacturing, transportation, retail and wholesale trades, finance, services, and government. As Figure 6a shows, this large component of total employment is expected to change much like the nation as a whole over the period 1985 to 2000. The impact of the 1981-83 recession is clearly evident, as is also the strength of the recovery in Missouri.

Agricultural employment, on the other hand, has been in decline since the turn of the century, with only a scattering of growth years through 1985. No reversals in this long-run trend are expected before 2000. As Figure 7a demonstrates, however, the rates of reduction in Missouri's agricultural work force, while somewhat greater than those of the U.S., closely follow the national trend. In other words, the economic forces operating on agricultural nationally probably are those reducing the number of farmers in Missouri. Figure 8a shows the change in agricultural employment against that of nonagricultural employment, with both calculated as a percent of total employment.

A third component of total employment, nonfarm proprietors, also merits review. This group is composed of men and women who work for

FIGURE 8a

AGRICULTURAL AND TOTAL NONAGRICULTURAL EMPLOYMENT AS A PERCENT OF TOTAL EMPLOYMENT
1980-2000



Sources: Division of Budget and Planning and U.S. Bureau of Economic Analysis

themselves and who, therefore, receive income principally from their own businesses. This group is the nearest approximation to the capitalist "adventurer" of any aggregation under examination. Unlike wage and salaried employees and the agricultural workforce, nonfarm proprietors face excellent prospects both in Missouri and the nation generally.

In 1975, there were 137,820 nonfarm proprietors and 152,310 farm proprietors. By 2000, projections show twice as many of the former than of the latter: 196,860 nonfarm proprietors and 90,370 farm proprietors. Table 2 shows significant gains for nonfarm proprietors: over the period 1980 to 2000 their real income will increase by 88% and their average annual earnings by 65%. The present tax advantages accruing to self-employment and the nonmonetary compensation commonly associated with proprietorship, if monetized, would raise these change rates significantly.

TABLE 2

PERCENTAGE CHANGE IN NONFARM PROPRIETORS 1980-2000 (All Percentages and Based on 1972 Dollars)[9]

	Number		Income		Avg. Annual Earnings	
	Mo.	US	Mo.	US	Mo.	US
1980	18.04	22.89	—6.09	2.29	—20.45	—16.76
1985	19.09	21.61	25.15	20.03	5.09	—1.29
1990	—4.41	—2.16	13.85	15.30	19.10	17.85
1995	1.27	3.66	15.53	17.78	14.08	13.63
2000	—1.10	0.92	14.24	15.93	15.52	14.87
1980-00	14.02	24.46	88.07	88.98	65.07	51.84

The growth in Missouri nonfarm proprietors, however, is above the overall trend for all wage earners. Greater-than-national declines in agriculture coupled with overall slower rates of growth in nonagricultural employment are the rule, and these growth rates result in significantly slower change in total employment.

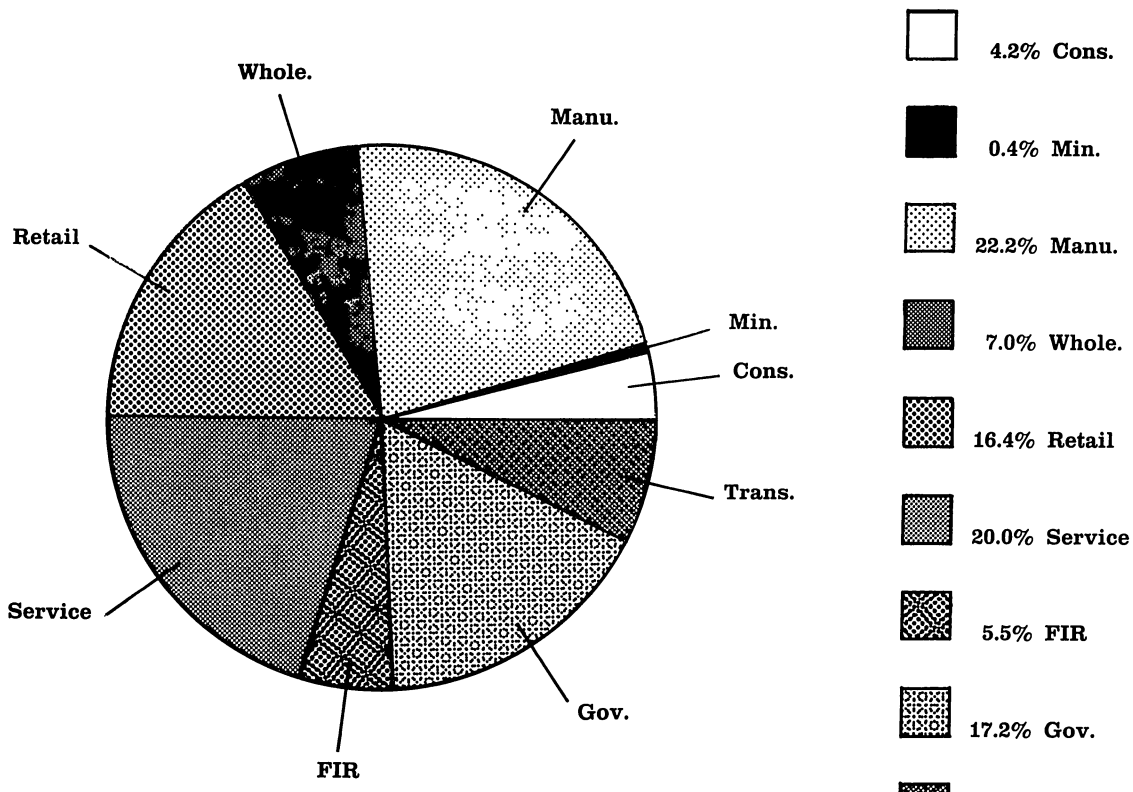
The projected movements in the principal Missouri employment aggregates do not necessarily signify a slowing of state economic activity. Economies with small employment changes may nevertheless be prosperous, depending on the types of economic activity that dominate. An economy with declining employment but growing, capital-intensive industry may be more prosperous than one exhibiting the opposite trends.

jected to decline. If we assume that demand for service, retail and wholesale employees will continue at levels somewhat near those in evidence today, then we can anticipate a subtle but important recomposition of the wage and salary labor force between 1980 and 2000, as shown in Figures 9a and 10a. The largest gains are made by the service and retail sectors and the largest losses occur in the high capital-using manufacturing sector.

The service and retail sectors in 1980 accounted for a little over one-third (36.4%) of all Missouri wage and salary workers. By 2000, the two sectors are projected to employ nearly one-half (47%) of this group. Manufacturing, on the other hand, is projected to fall from 22.2% of the wage and

FIGURE 9a

DISTRIBUTION OF NONAGRICULTURAL EMPLOYMENT IN MISSOURI
1980



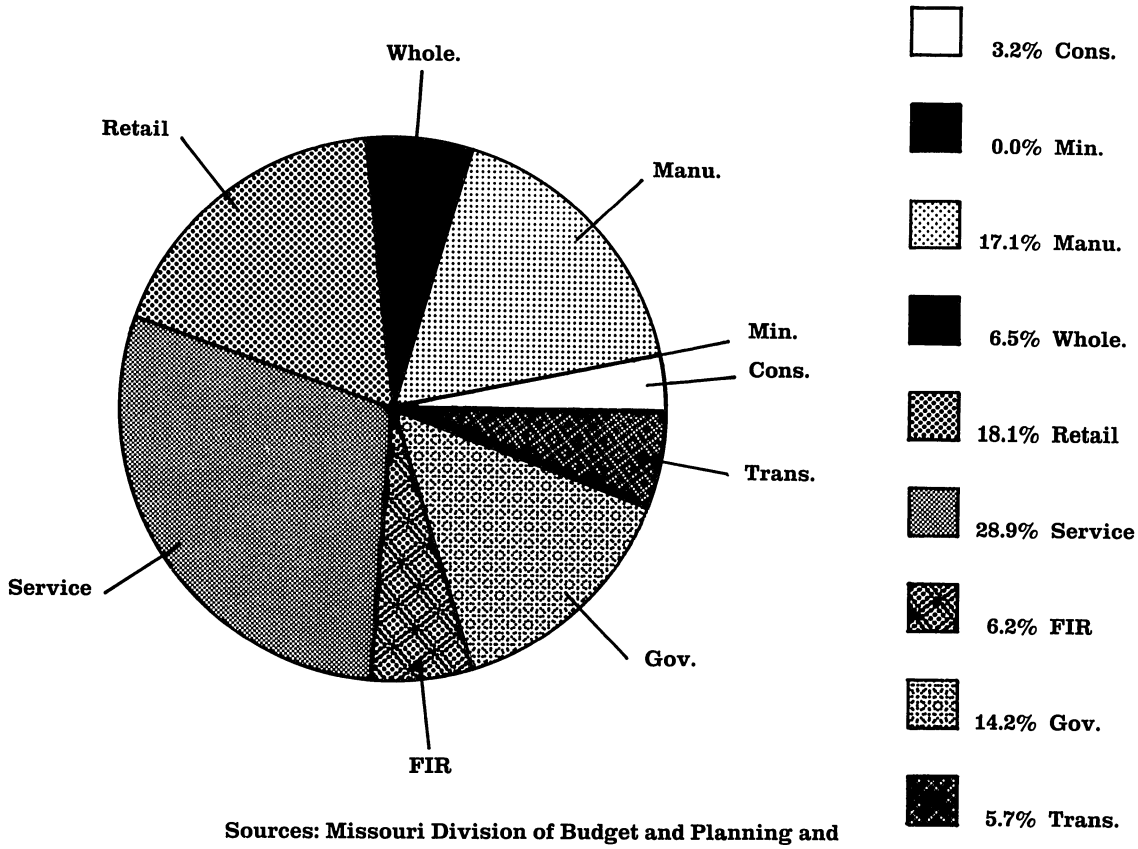
Sources: Missouri Division of Budget and Planning and U.S. Bureau of Economic Analysis

However, a dramatic increase in the ratio of capital to labor most probably is not in Missouri's future, largely because the rate of demand for high capital using products and services is pro-

salary work force to 17.1%. When employment losses in construction, government and transportation, communication, and utilities (hereafter "transportation") are added to those of manu-

FIGURE 10a

DISTRIBUTION OF NONAGRICULTURAL EMPLOYMENT IN MISSOURI
2000



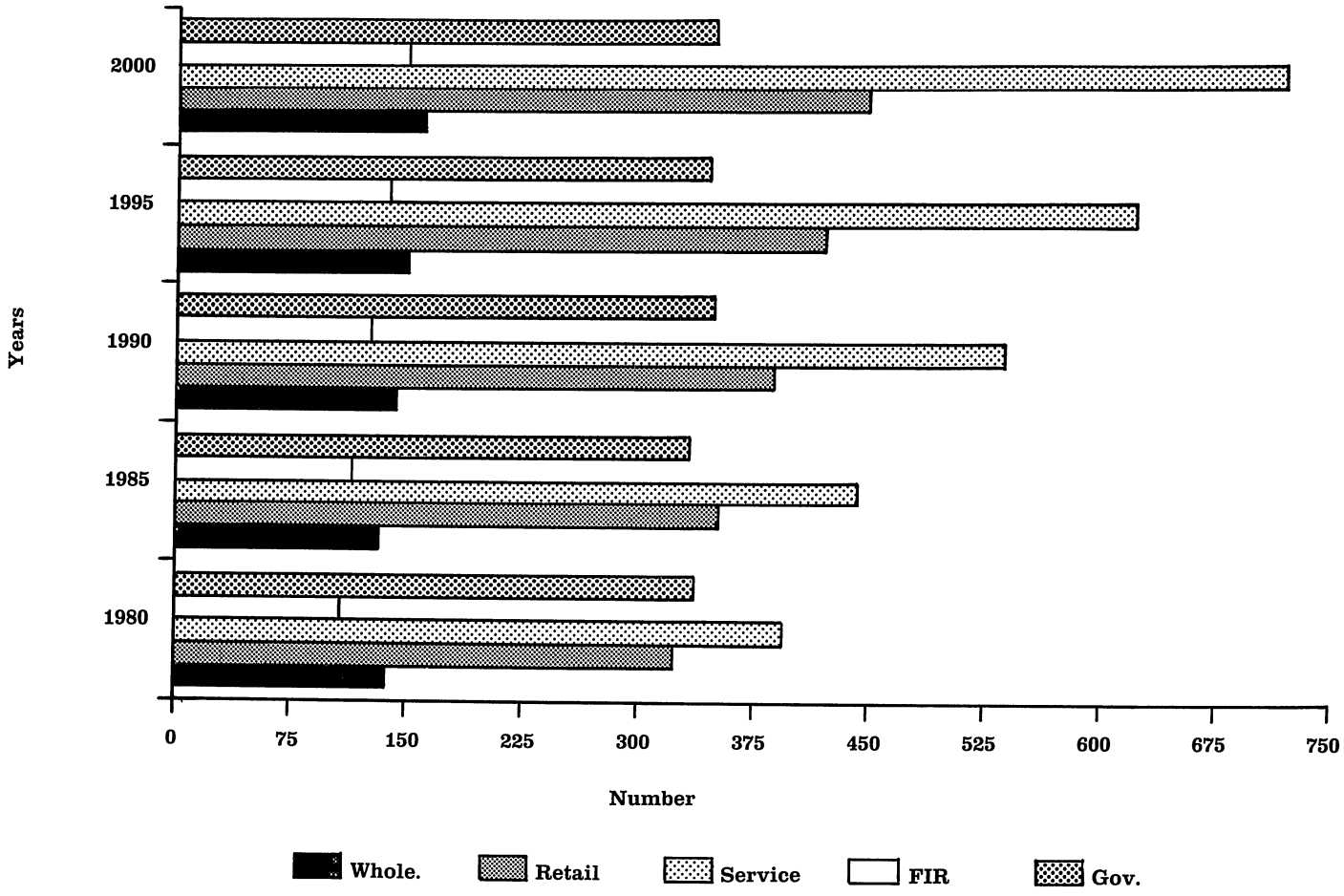
Sources: Missouri Division of Budget and Planning and
U.S. Bureau of Economic Analysis

facturing, their total employment loss of 10.5% nearly equals the 10.6% gain projected for the service and retail industries.

Numerical estimates of the jobs passing between these sectors are shown in Figures 11a and 12a.

FIGURE 11a

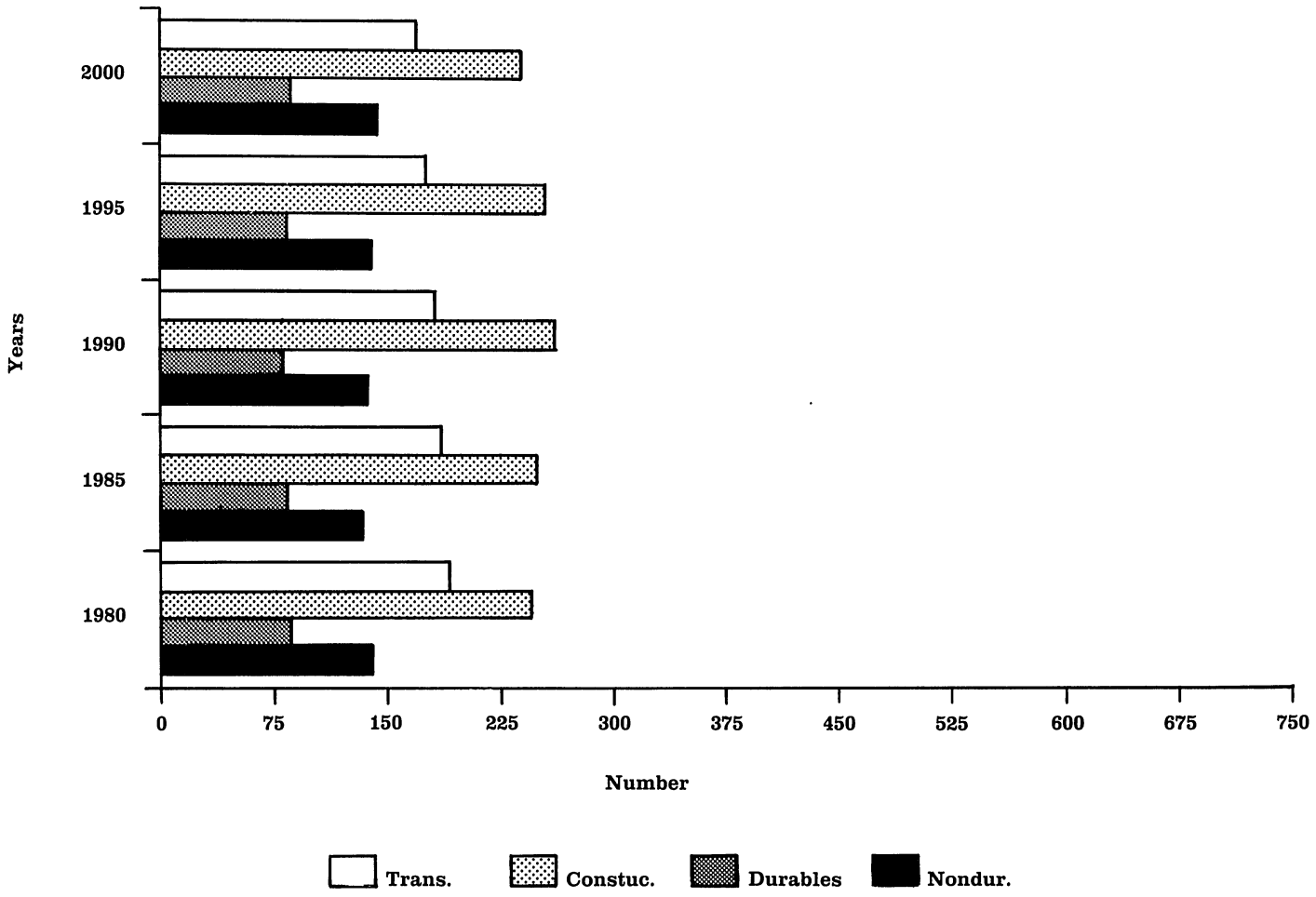
EMPLOYMENT GROWTH IN WHOLESALE & RETAIL, FIR, SERVICE AND GOVERNMENT
MISSOURI, 1980-2000 (In Thousands)



Sources: Missouri Division of Budget and Planning and U.S. Bureau of Economic Analysis

FIGURE 12a

EMPLOYMENT GROWTH IN TRANSPORTATION CONSTRUCTION AND MANUFACTURING IN MISSOURI, 1980-2000 (In Thousands)



Sources: Missouri Division of Budget and Planning and U.S. Bureau of Economic Analysis

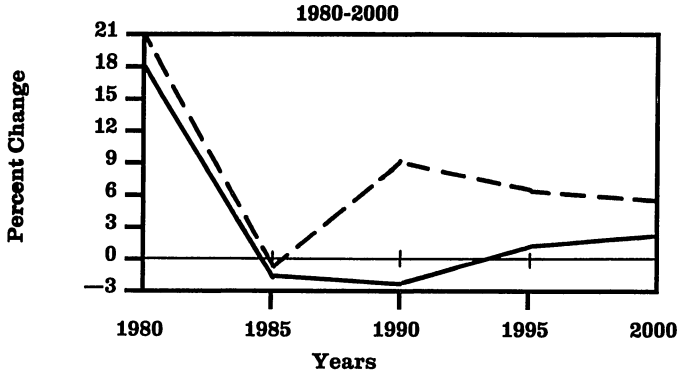
These two bar charts have been constructed on identical scales. The bars in Figure 12a labeled "Durables" and "Nondur." refer to the two components of the manufacturing sector. In Figure 3 above, these two components were combined to show the relationship between service and manufacturing employment growth. Clearly, the future of job growth in the state contains a very large role for those businesses in which dealing with the needs of people is the principal objective.

Figures 13a through 23a compare Missouri with national projected change rates for each of eleven sectors from 1980 to 2000. Projected employment in the state's principal nonagricultural sectors generally follows trends at the national level, though there are significant exceptions.

FIGURE 13a

PERCENTAGE CHANGE IN U.S. AND MISSOURI CONSTRUCTION EMPLOYMENT

1980-2000

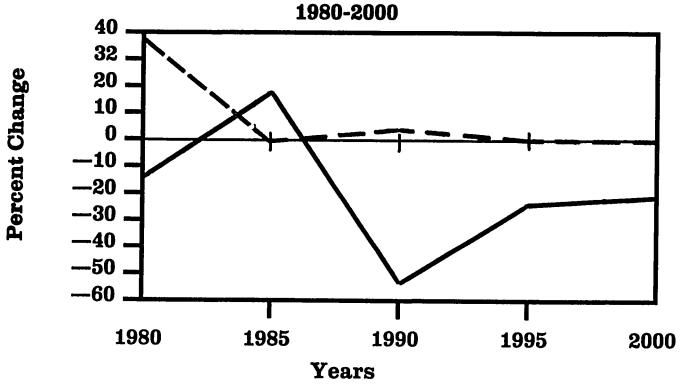


Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 14a

PERCENTAGE CHANGE IN U.S. AND MISSOURI MINING EMPLOYMENT

1980-2000

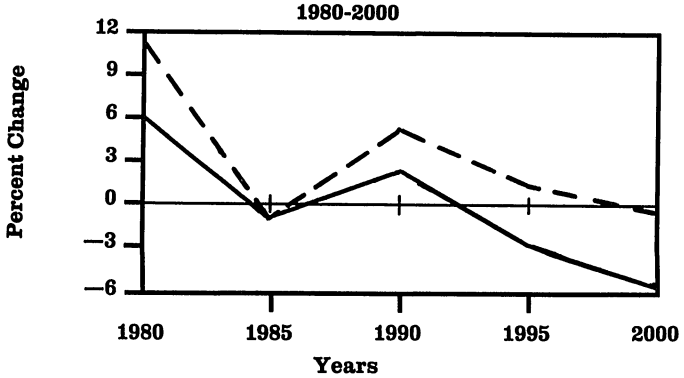


Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 15a

PERCENTAGE CHANGE IN U.S. AND MISSOURI MANUFACTURING EMPLOYMENT

1980-2000

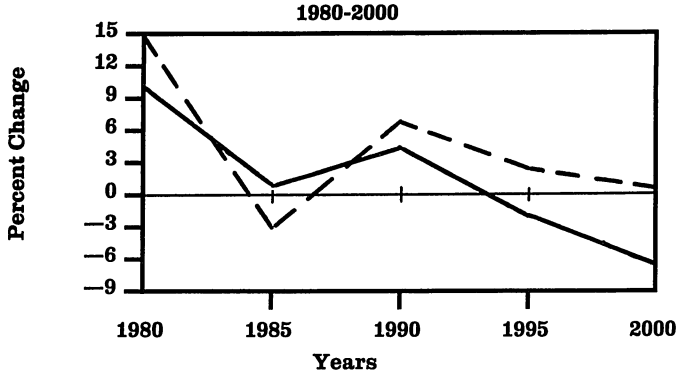


Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 16a

PERCENTAGE CHANGE IN U.S. AND MISSOURI DURABLE MANUFACTURING EMPLOYMENT

1980-2000

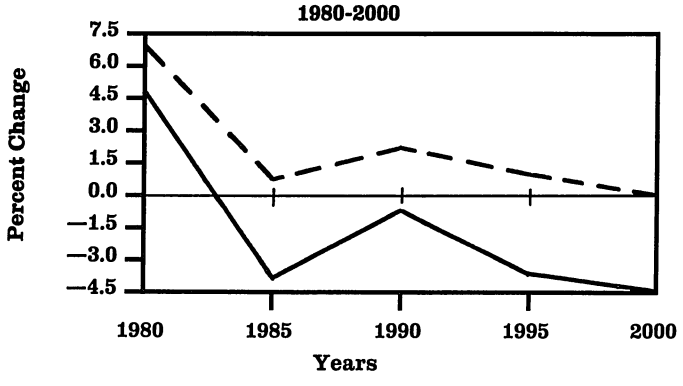


Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 17a

PERCENTAGE CHANGE IN U.S. AND MISSOURI NONDURABLE MANUFACTURING EMPLOYMENT

1980-2000

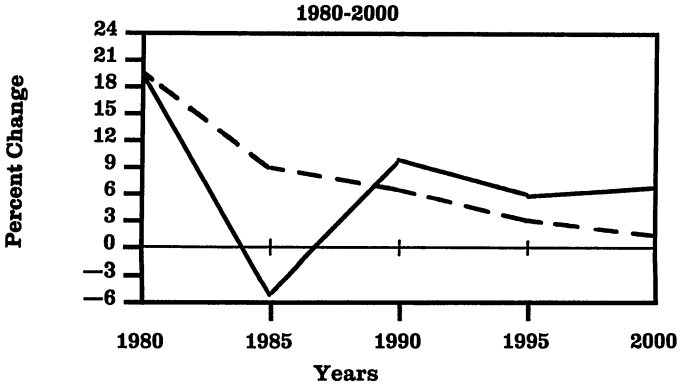


Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 18a

PERCENTAGE CHANGE IN U.S. AND MISSOURI WHOLESALE TRADE EMPLOYMENT

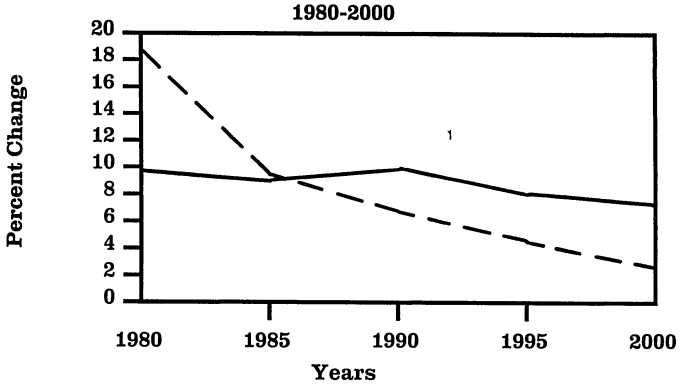
1980-2000



Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 19a

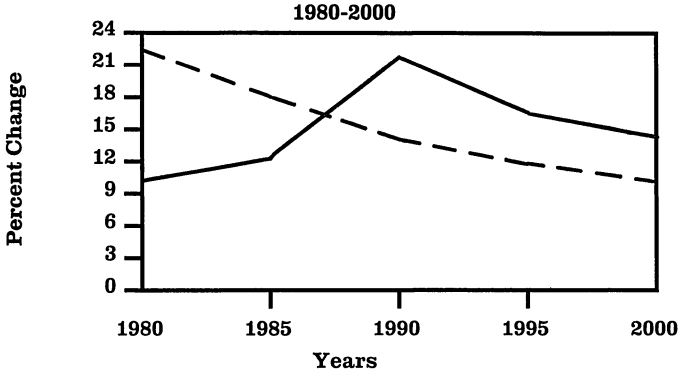
PERCENTAGE CHANGE IN U.S. AND MISSOURI RETAIL TRADE EMPLOYMENT 1980-2000



Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 20a

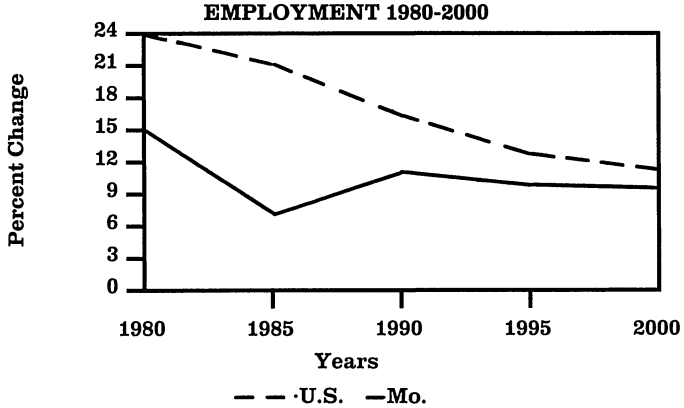
PERCENTAGE CHANGE IN U.S. AND MISSOURI SERVICE SECTOR EMPLOYMENT 1980-2000



Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 21a

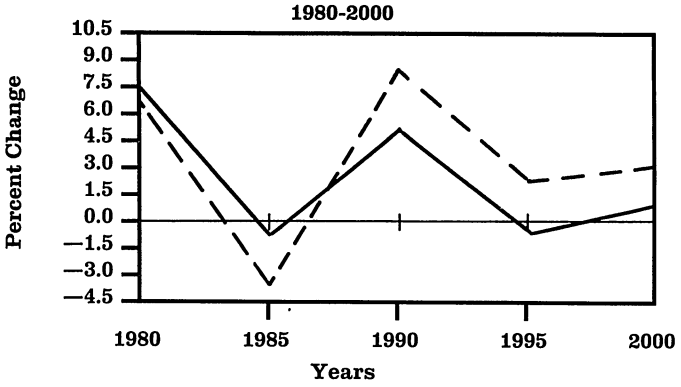
PERCENTAGE CHANGE IN U.S. AND MISSOURI FINANCE, INSURANCE AND REAL ESTATE EMPLOYMENT 1980-2000



Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 12a

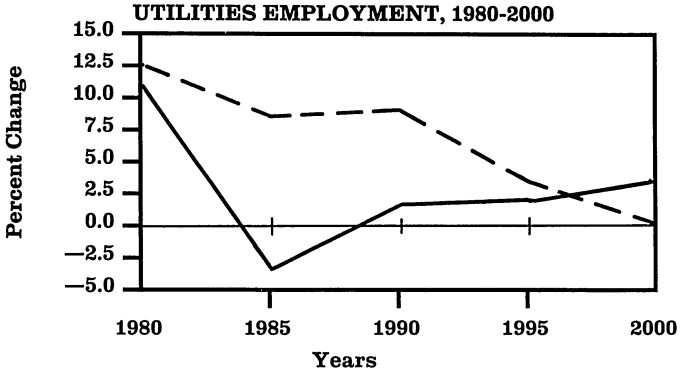
PERCENTAGE CHANGE IN U.S. AND MISSOURI GOVERNMENT EMPLOYMENT 1980-2000



Sources: Missouri Division of Budget and Planning and the National Planning Association

FIGURE 23a

PERCENTAGE CHANGE IN U.S. AND MISSOURI TRANSPORTATION, COMMUNICATION AND UTILITIES EMPLOYMENT, 1980-2000



Sources: Missouri Division of Budget and Planning and the National Planning Association

The Missouri construction sector, for example is predicted to diverge from the national trend between 1985 and 1990, in large part due to an expected reduction in Missouri housing starts during the late 1980s, but probably will end the 1990s near national growth rates.

Mining, on the other hand, is not expected to reverse a projected decline from 8,320 employed in 1980 to 2,350 in the year 2000.

Manufacturing, both of durable and nondurable goods, generally is expected to track the national pattern. The state contains a number of automobile assembly plants, automotive parts manufacturers, and chemical companies and numerous businesses engaged in the manufacture of clothing, shoes and hats. These firms probably will continue to feel the impact of foreign competition and the movement of Missouri businesses to the southern United States.

The wholesale, retail, and service sectors show the vigorous growth in the 1990s which will result in their combined dominance of the state economy by 2000. Each sector is expected to grow steadily in employment at rates above the national trend. The dip in wholesale trade between 1980 and 1985 (see Figure 18a) reflects that sector's considerable difficulties during the recent recession.

The prospects of the finance, insurance, and real estate sector ("FIRE") also are good. This sector is especially sensitive to personal income growth and the expansion path as depicted in Figure 21a should be viewed as the minimal likely over the period. If personal income in Missouri grows at rates higher than those predicted, then this sector should achieve growth rates more in line with the national rates.

The steady growth in federal, state and local government employment, which had been a prominent feature of the Missouri employment picture during the 1970s and early 1980s, is projected to diminish somewhat over the next 15 years. The rate of change is expected to fall below the national trend by 1990 and to finish the decade about one percent behind the national rate. In this respect, government sector growth is in line with all of the other historically important economic sectors in losing ground to service and retail/wholesale expansion.

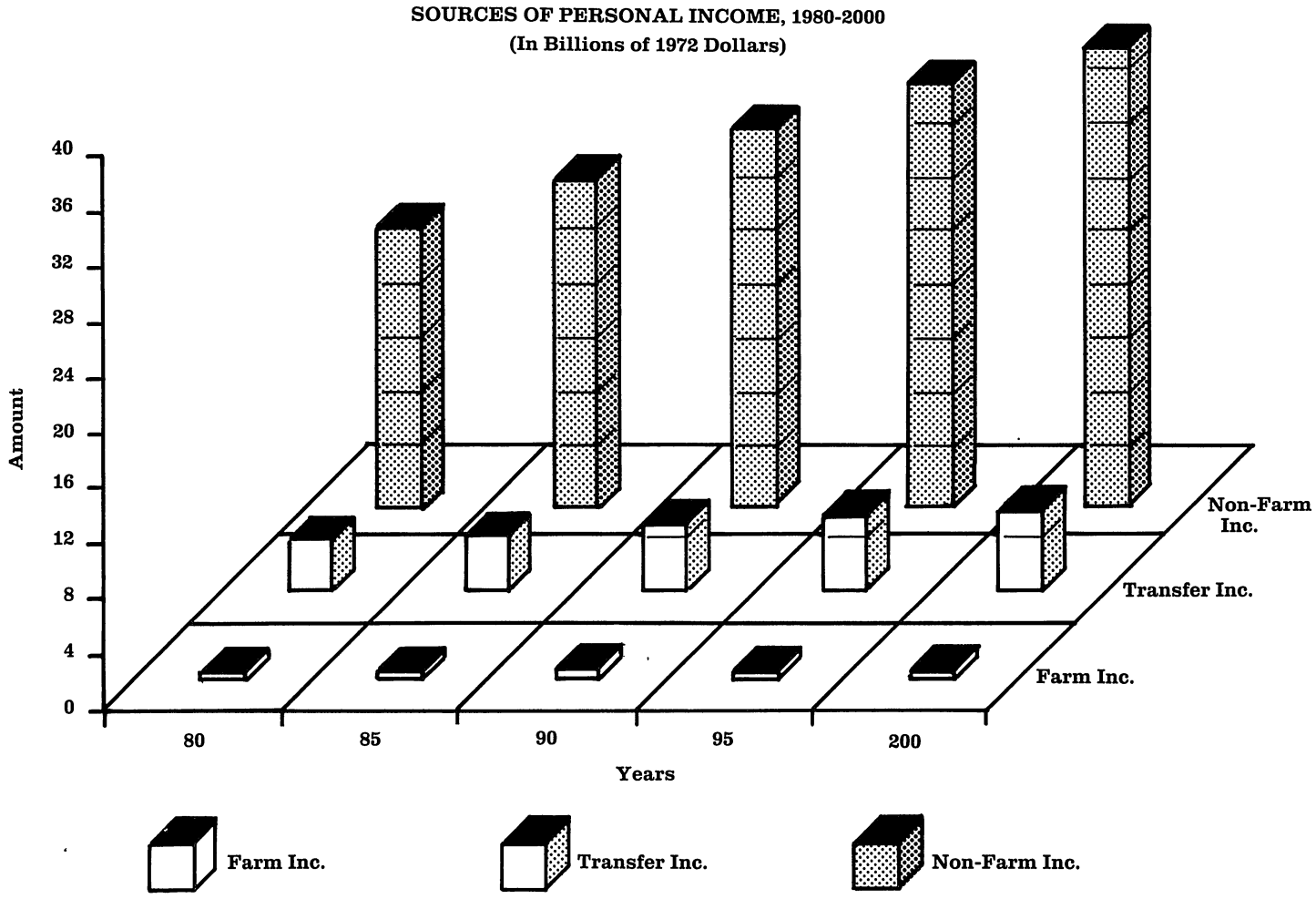
Finally, generally slower growth is expected for the transportation, communication and utilities sector. The national trend is decidedly downward, but reflects more the higher capital to labor ratio which this sector will enjoy in the 21st century than it does a decline in the economic importance of transportation, communication and utilities. Missouri should remain an important center of transportation and communication employment with an above-national growth rate in 2000, as Figure 23a shows.

EARNINGS TRENDS

A review of forecasted developments in the income of Missourians generally describes the same structural changes apparent from forecast employment trends.

sectoral earnings trends in more detail, for each of ten sectors, from 1980 (Figure 25a) to 2000 (Figure 26a). It is quickly evident that the largest projected gain is for the service sector, which is forecast to increase its share of total state employment income from 17.1% to 22.7%. The

FIGURE 24a



Sources: U.S. Bureau of Economic Analysis and Missouri Division of Budget and Planning

As Figure 24a indicates, projections show the farming sector losing a small measure of its total, real income after 1990, while those who, as a group, receive transfer income would gain total, real income. The largest real income gains would accrue to the nonfarm category and, within that category, to nonfarm proprietors and the service and finance sectors.

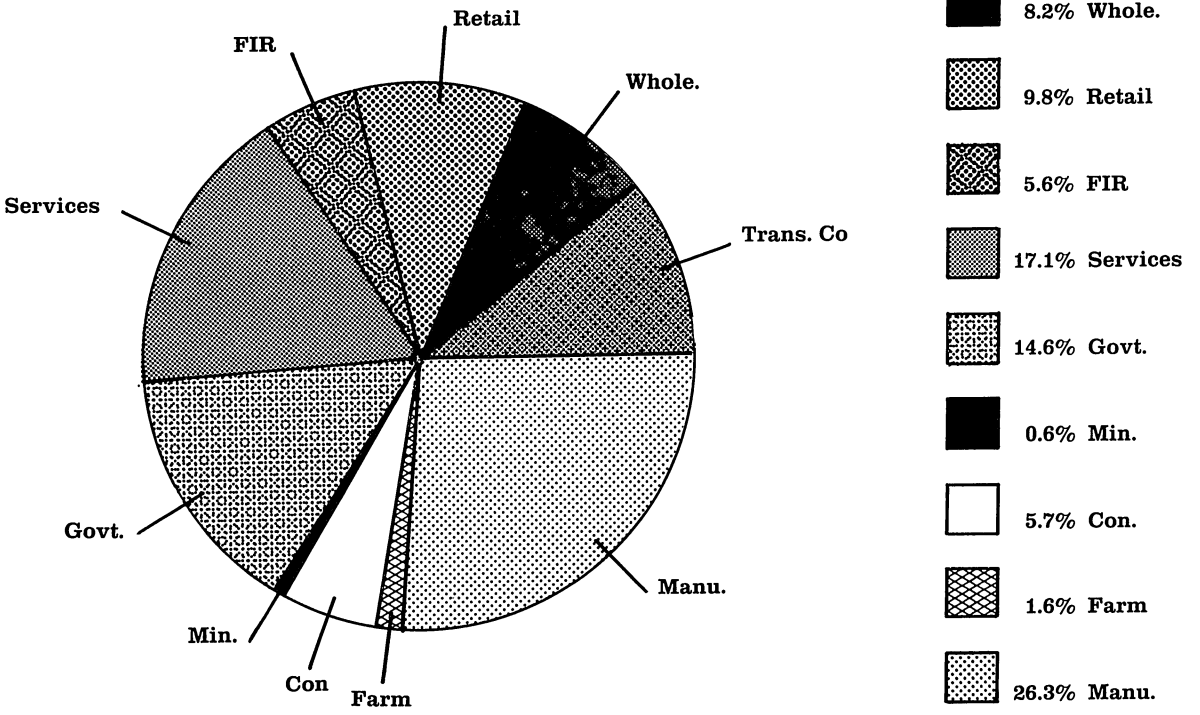
The pie charts of Figures 25a and 26a show

only other sector expected to increase its share is FIRE (finance): from 5.6% to 6.5%.

These changes in Missouri sectoral earnings in large measure reflect the direction of national changes: the growth in the share of total earnings for employees in service businesses and in finance, insurance and real estate firms is accompanied by falling shares of total earnings in all other sectors. The total earnings forecasts,

FIGURE 25a

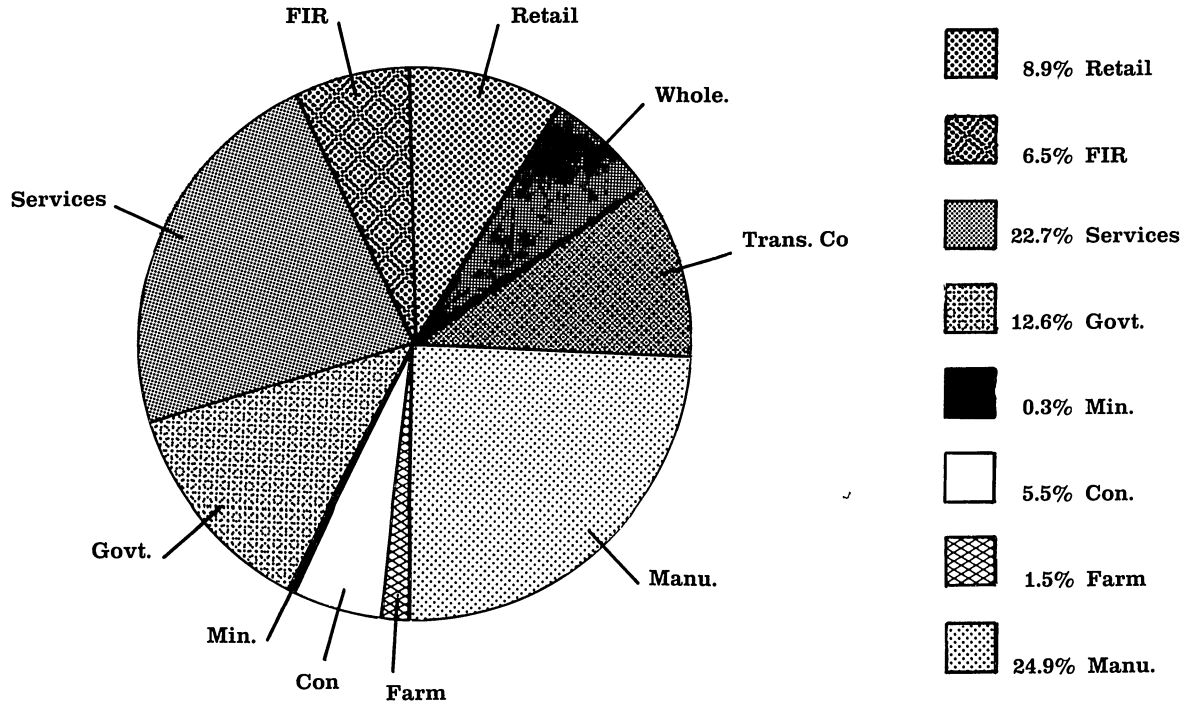
DISTRIBUTION OF EARNINGS BY SECTOR IN MISSOURI, 1980



Sources: U.S. Bureau of Economic Analysis and Missouri Division of Budget and Planning

FIGURE 26a

DISTRIBUTION OF EARNINGS BY SECTOR IN MISSOURI, 2000



Sources: U.S. Bureau of Economic Analysis and Missouri Division of Budget and Planning

however, do not perfectly reflect the impact of economic changes on the average employees paycheck. If, for example, the percentage decrease in employment for a sector exceeds the percentage decrease in that sector's earnings share, then per employee earning actually will increase, all other things being equal. Of course, the reverse is true and per employee earnings will fall, if employment grows faster than earnings.

Many of the economic and social factors which qualify this simple relationship between earnings and employment have been included in the equations which stand behind Table 3. Each of the earnings and employment equations contain demographic and economic information which capture key changes in national and Missouri economic activity. For example, some of the increase in the wages of the average durables manufacturing employee by the year 2000 can be attributed to the declining number of such employees, but the largest percentage of their wage growth most probably will stem from the introduction of labor saving machines in factories. Substitution of machine for human labor is likely to raise labor productivity and enable employees to command higher pay.

Table 3 contains some surprises in light of the predicted employment growth in services, the retail and wholesale trades, and in the finance, insurance and real estate sector. While the job growth in services is forecast to outstrip the rate of job formation in any other sector, service employees likely will lose rank in average employee pay in Missouri. The average annual pay for Missouri service employees gave that sector a rank of 7 in 1980, $1,200 above the national average of $16,300. By 2000, however, average annual service earnings are projected to be approximately $200 below the national average and to rank 8th in Missouri sector pay. Employees in the retail trades are expected to keep pace with the national trend and to maintain their Missouri sector pay rank. Missouri wholesale trades workers are forecast to lose rank as well as fall below the national growth pattern. Those Missourians employeed in finance, insurance, and real estate are shown to experience a growth in annual average earnings above the national trend in that sector and to maintain rank as sixth among the state nonagricultural sectors.

TABLE 3

PER EMPLOYEE NOMINAL, ANNUAL EARNINGS BY SECTOR 1980-2000[10]

Sector		1980 Rank	Earnings in 1980	2000 Rank	Earnings in 2000	Percentage Change 1980-2000
Transportation Comm. & Utils.						
	US	1	$27,300	1	$75,000	174.7
	MO	1	30,700	1	73,900	140.7
Construction						
	US	2	27,000	3	69,800	158.5
	MO	2	28,300	3	70,300	148.4
Durables Mfg.						
	US	3	26,900	2	71,900	167.3
	MO	3	26,400	2	70,500	167.0
Wholesale Trade						
	US	4	24,400	5	51,600	111.5
	MO	4	23,900	5	50,600	111.7
Nondurable Mfg.						
	US	5	22,400	4	52,400	133.9
	MO	5	21,800	4	50,600	132.1
Finance, Insur. and Real Estate						
	US	6	21,200	6	47,000	121.7
	MO	6	21,000	6	48,300	130.0
Government						
	US	7	17,400	7	42,700	145.4
	MO	8	17,500	7	40,300	130.3
Services						
	US	8	16,300	8	37,000	126.9
	MO	7	17,500	8	36,800	110.3
Retail Trades						
	US	9	11,700	9	23,800	103.4
	MO	9	12,300	9	24,900	102.4

In three sectors the average annual pay is expected to grow fast enough to raise their 1980 rankings by 2000. Missouri workers in durable manufacturing, nondurable manufacturing, and government are expected to gain in state ranking; of those three sectors only durable manufacturing is expected to grow in annual pay at the national rate. The improvement in rank for nondurable manufacturing and government workers most probably will result from the same type of machine-for-human labor substitution which is expected to raise durables manufacturing wages. Greater per worker productivity in government may stem from the expanded role which computers should have in future provision of governmental services.

The two remaining groups — the construction sector and the transportation, communication,

and utilities sector — do not clearly fit into either the inclining or declining categories. While it appears that construction workers will lose rank to durables manufacturing employees by 2000, their projected average annual pay is so close to durables as to be indistinguishable, and their 20-year growth rate is second only to durables and close to the national trend. By 2000 the average annual earnings of Missouri construction employees are forecast to remain above the national average. No so, however, with employees in the transportation, communication, and utilities sector. These Missouri employees were earning 21% more than the national average in 1980, but they may be earning about 1.5% less than the national average by 2000. This relatively sharp reversal in trend is based on an extrapolation of current decreases in communication employment in the Midwest — decreases which have resulted from a slow exodus of communication firms to the South and West.

These growth rates in per employee earnings help explain trends discussion earlier in this report in projected total and per capita real income for Missouri. Those projections indicated that per capita real income growth in Missouri would not keep pace with the U.S. trend. Per employee earnings trends point to one of the major reasons for this disparity between state and national growth in personal income: the Missouri sectors which are projected to grow most in employment are the very ones which are forecast to grow least in per employee pay.[11]

IMPLICATIONS OF ECONOMIC TRENDS

The period 1980 to 2000 probably will encompass a significant change in the way many Missourians make their living and, more importantly, in the purchasing power which their labor will give them over goods and services. Manufacturing, for example, is projected to decline by 2.3% in total employment, but average nominal wages for durable and nondurable manufacturing employees may grow by 151% for those employed in that sector. In contrast, the "people" businesses — service, finance, wholesale and retail trades — are projected to gain 82% in employment, even though the growth in nominal wages is expected to grow by about 110%. These are only two of the trends which emerge from the analysis reported in this paper.

The projections attempted in this report necessarily are subject to the constraint inherent in forecasting trends in highly dynamic national and regional economies. Many projected trends appear adverse and may be disquieting, among them signs of a significant move towards relatively low-wage, service-sector employment. A number of the uncovered trends, however, appear encouraging, not least a projected favorable climate for business investment and job creation.

Missouri historically presented business investors and managers with a relatively low cost of doing business, reflecting energy, wage, capital and tax costs below both national and regional averages. Forecasts to the year 2000 call for this trend to continue, as indicated in Figure 27a.

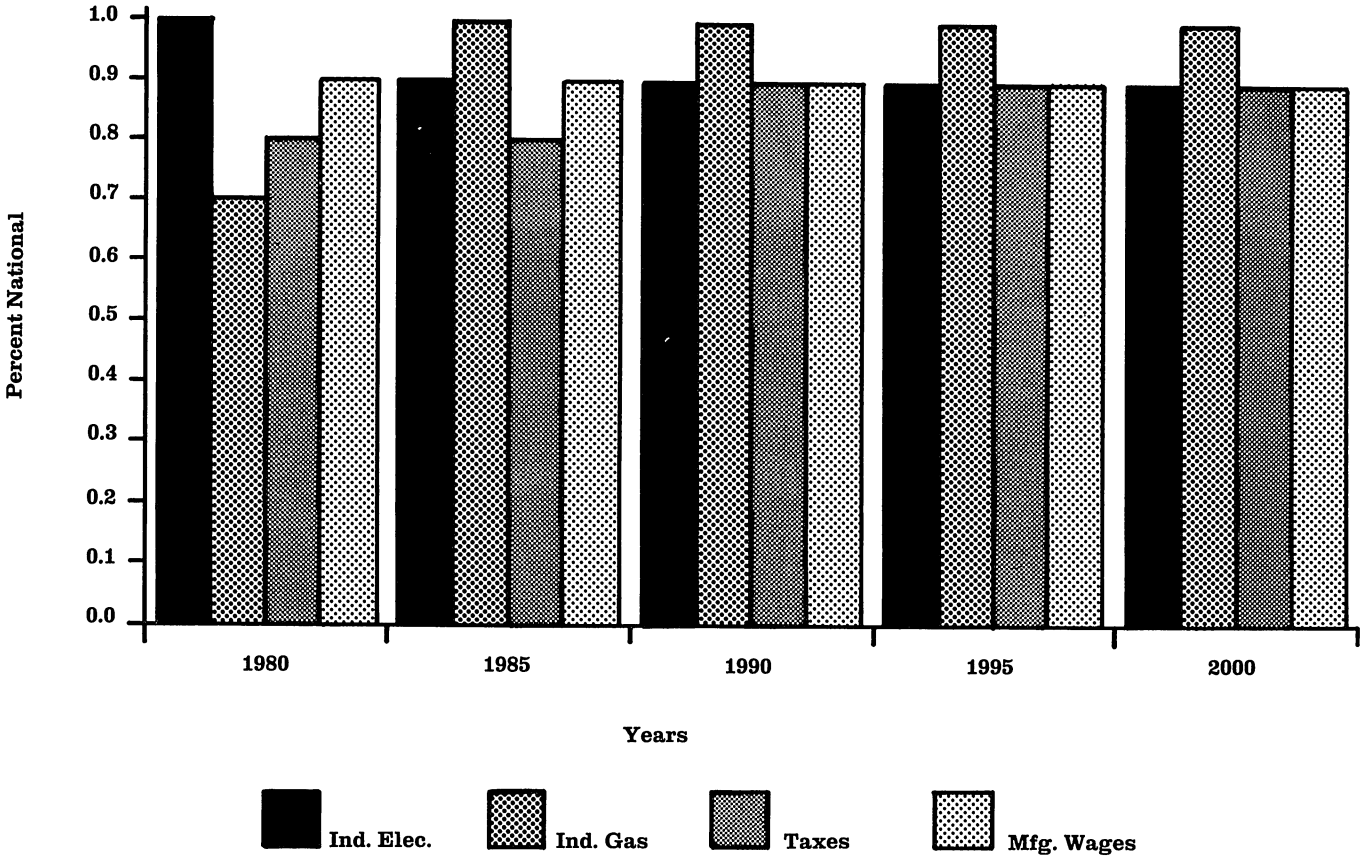
Figure 27a shows the projected Missouri costs of industrial electrical power, industrial natural gas, state and local taxes, and manufacturing wages in Missouri as a percent of the national costs. Natural gas is projected to rise from 70% of the national average cost in 1980 to 100% by 2000. State and local taxes are shown rising from 80% of the national average to 90%. Electrical power used by industry is shows falling from 100% of the national average cost in 1980 to 90% for the period 1985 through 2000. The wage bill usually is the single highest and most variable cost of doing business. Figure 27a indicates that Missouri manufacturing wages are projected to remain at 90% of the national level throughout the twenty-year forecast period.

Considerably more analysis would be necessary to assess the probability that the trends projected here will come to pass. Demographic variables, developments within the national and international economies, intangibles like entrepreneurial spirit and many other factors ultimately will determine the future of the Missouri economy.

This profile opened with observations on the strong foundations historically supporting the Missouri economy. The current period unquestionably is one of significant economic change, but it is important to note that a solid basis endures for continued growth and prosperity. The Missouri economy is large and reflects a healthy diversity. Our population contains a growing, urban population and a skilled and well-educated work force. The natural resource base and

FIGURE 27a

THE RELATIVE COST OF DOING BUSINESS IN MISSOURI, 1980-2000
(U.S. = 1.00)



Source: Chase Econometrics

infrastructure system are strong. Our agricultural sector is moving toward resolution of its severe downturn of the mid-1980s. All these factors are important ingredients for a Missouri of opportunity and prosperity in the year 2000.

NOTES

[1]The following variables were used in estimating sector employment and income change: nominal and constant (or "real") personal income in Missouri and the United States, housing starts in Missouri and the United States, new car purchases in Missouri and the United States, the federal funds rate, the prime interest rate, real and nominal gross national product, Missouri population, and Missouri and United States total employment.

[2]See, for example, Lester C. Thurow, *The Zero-Sum Solution: Building a World-Class American Economy* (New York: Simon and Schuster, 1985); and Otto Eckstein, *et al., The DRI Report on U.S. Manufacturing Industries* (Data Resources, Inc., 1984).

[3]See, among others, Robert A. Lawrence, *Can America Compete?* (Washington, D.C.: Brookings, 1984).

[4]It is quite common in the peculiar language of economics to speak about a person's or community's real as opposed to nominal command over goods and services. The meaning of the terms "real" and "nominal", while apparently obscure, actually is quite straightforward. If an economy, for example, experiences an inflation rate of 10% each year for 10 years, it might appear to some that everyone is better off at the end of that 10 years than before. After all, wages have risen 160%. Suppose, however, that this nominal increase of 160% was due to automatic wage increases intended to keep the workers even with increases in retail prices, and that the nominal increase was not caused by the workers' greater productivity. If that is the case, then it is clear that the worker can buy no more goods or services at the end of the 10 years than he or she could at the beginning. In other words, once the wages are reduced by the amount of inflation, one finds that the real or underlying wage has not changed and that the workers' command over goods and services or their purchasing power is no greater than before.

If all incomes were equally affected by price changes, then there would be little reason to draw the distinction between real and nominal: everyone would have the same real purchasing power after inflation was mathematically subtracted. Modern economies, however, never enjoy that equality of effect. Consumers generally try to get the most for their dollar, even during periods of time when the consumer's nominal income is rising rapidly. Thus, consumers frequently substitute a highly priced automobile for a lower-priced, perhaps smaller vehicle, arguing that a car is a car, within reason. Those companies that manufacture the lower-priced car produce more cars per worker after the inflation begins than before, whereas the manufacturers of the higher-priced cars produce less. Consumers buy less beef and more chicken, fewer American shoes and more Korean, less steel and more aluminum. In each case, the real wages of those workers to whom consumers are turning for cheaper products will increase, their own command over goods and services will grow, and their increased economic stature in the labor force will, to some degree, be at the expense of those employed in goods and services production from which consumers are turning away.

[5]For an illustrative exposition of this sectoral shift, see Thurow, *Zero-Sum Solution:* pages 73-4.

[6]Eckstein, *DRI Report on U.S. Manufacturing:* pages 9-24.

[7]The sources for those and other projections contained in the profile are identified in the lower-left hand corner of the Figures. Where the attribution is to "Missouri Division of Budget and Planning", the estimates were based largely on original data compiled by the Division.

[8]See, Bureau of the Census, *Money Income and Poverty Status of Families and Persons in the United States, 1983;* and *Current Population Reports, Consumer Income* for the years 1967 to 1977.

[9]Data from the Department of Commerce, Bureau of Economic Analysis, 1985 OBERS, *BEA Regional Projections,* v. 1: State Projections to 2035 (Washington, D.C.: 1985).

[10]The sources for Table 3 are projections made by Missouri Division of Budget and Planning *BEA Regional Projections.*

[11]The decline in overall per capita income noted at the beginning of this report (see Figures 1a and 2a) may appear to be at variance with the forecast of per employee earnings near the national trend. This disparity, however, is due to the growing difference between household income and income reported by place of employment. As Missouri's population ages, the overall rate of income growth (or, the household income) expands at a rate much slower than the national rate.

APPENDIX

MISSOURI SCHOOL ENROLLMENTS

Missouri enrollment patterns are a function of fertility, and fertility has fluctuated widely over the last forty years. Births rose sharply during the baby boom (1946-1964), fell sharply during the baby bust (1965-1976), and have risen again moderately in the era of the baby-boom echo. The successive effects on Missouri elementary schools, high schools and colleges were, and are, largely predictable. Baby boomers swelled elementary enrollments to an all-time high in 1970 and high school enrollments to an all-time high in 1977. College enrollments peaked in the early 1980s, as the last members of the baby boom were in their final years of school. Baby-bust students began to replace baby-boom students in the early 1970s, forcing enrollments down. Elementary enrollments fell steadily until leveling off only just recently. High school enrollments continue to decline. College enrollments appear to be on the verge of prolonged decline for the first time in history.

Future enrollments hinge on the passage of the baby bust and its slightly larger successor, the baby-boom echo (children of baby boomers), through the state's school system. Today's elementary students come primarily from the echo generation, although the last of the baby bust will not leave elementary school until the late 1980s. The echo generation likely will bring modest growth to elementary enrollments for the remainder of the century. The prospect for high school enrollments remains low until the early 1990s, when the last members of the baby bust reach college age and the first members of the baby-boom echo enter high school. The small baby-bust cohort will dominate college enrollments for the next ten years.

Annual enrollments in Missouri public and nonpublic schools since 1979 are presented in Table 1. Total enrollments fell by 5 percent between 1979 and 1984. Losses were heaviest in high school enrollments, which declined by 14 percent. High school students comprise one-fourth of all enrollments. A somewhat surprising trend in the early 1980s was the continued growth in college enrollments despite a sizable decrease in the traditional college-age population (ages 18-24). Figure 1 and Table 2 illustrate. Rising enrollments by persons over age 24 offset declining enrollments by younger students. The proportion of public college students over 24 years of age rose by nearly two percent in the three years following 1981 (to 35 percent).

College enrollments are nevertheless expected to decline in the coming decade. The 18-24 age group is projected to shrink by over 100 thousand persons (19 percent) between 1985 and 1995. If, as is expected, the traditional college-age group continues to comprise a large share of total enrollments, total enrollments should decline accordingly. Little more than one in three people aged 18 to 24 attend college, yet the group represents 65 percent of college students. The National Center for Education Statistics recently projected a 6 percent drop in national college enrollments between 1983 and 1993. Many demographers incorrectly forecasted the turnaround to occur before 1983. The long-predicted decline in college enrollments finally materialized in 1984.

A significant demographic trend in college enrollments is the increasing participation by women. Fifty-one percent of Missouri's college students were women in 1984. In comparison, women accounted for little more than a third of college enrollments in 1950. National projections indicate that women will hold this majority, largely through higher attendance by older women. Two-thirds of students 35 years of age and over are women.

Elementary and secondary enrollments correspond more closely to changes in their respective age groups (ages 5-13 and 14-17) due to higher attendance rates. Therefore, projected populations for these age groups provide a clearer picture of what elementary and secondary enrollments may be. Figure 2 and Table 3 present historic and projected changes in these age groups. After sharp decline, the drop in elementary enrollments appears to have bottomed out. Modest growth is expected. The estimated 633 thousand elementary-school-age children in 1985 were nearly 200 thousand (23 percent) fewer than their counterparts in 1970. The 5-13 age group is projected to grow by 9 percent by 1995. The

TABLE 1

MISSOURI PUBLIC AND NONPUBLIC SCHOOL ENROLLMENTS: 1979-1984
(Fall Enrollments in Thousands. Sums may vary due to rounding.)

	1984				1983				1982			
GRADE	K-8	9-12	COLL	ALL	K—8	9-12	COLL	ALL	K-8	9-12	COLL	ALL
PUBLIC	545	249	170	964	546	249	177	973	547	256	174	977
NONPUBLIC	87	30	71	188	89	30	71	190	89	31	70	190
TOTAL	632	279	241	1,152	635	280	248	1,163	636	287	244	1,167
% NONPUB	13.8	10.7	29.5	16.3	14.0	10.8	28.6	16.4	14.0	10.9	28.7	16.3

	1981				1980				1979			
GRADE	K-8	9-12	COLL	ALL	K—8	9-12	COLL	ALL	K-8	9-12	COLL	ALL
PUBLIC	553	266	173	992	567	278	165	1,010	580	294	153	1,026
NONPUBLIC	89	32	71	192	88	32	69	189	88	32	69	189
TOTAL	642	298	244	1,184	655	309	234	1,199	667	325	222	1,215
% NONPUB	13.9	10.7	29.1	16.2	13.4	10.3	29.5	15.8	13.1	9.8	31.1	15.5

Sources: Missouri DESE and National Center for Education Statistics

FIGURE 1

ENROLLMENTS & THE 18-24 AGE GROUP
MISSOURI COLLEGES: 1970-2000

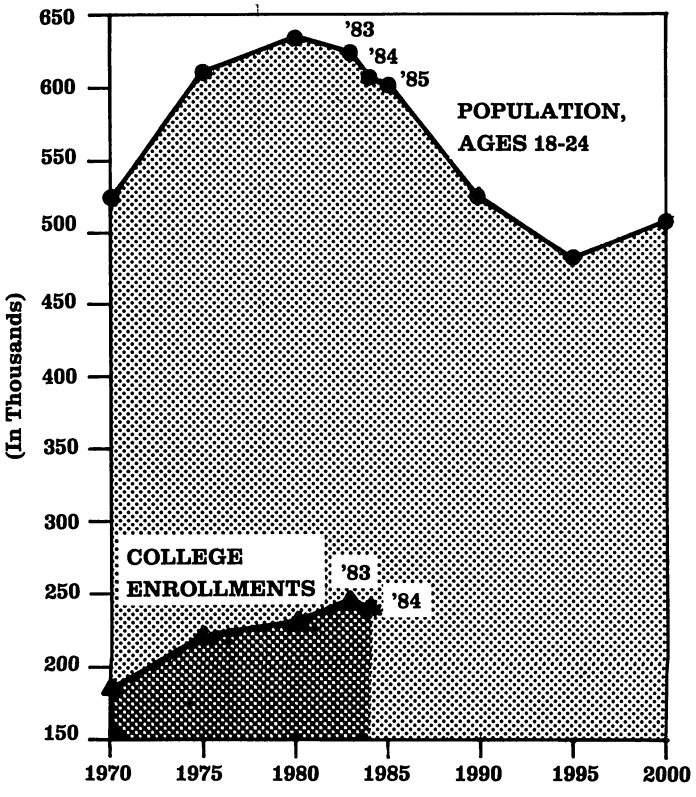
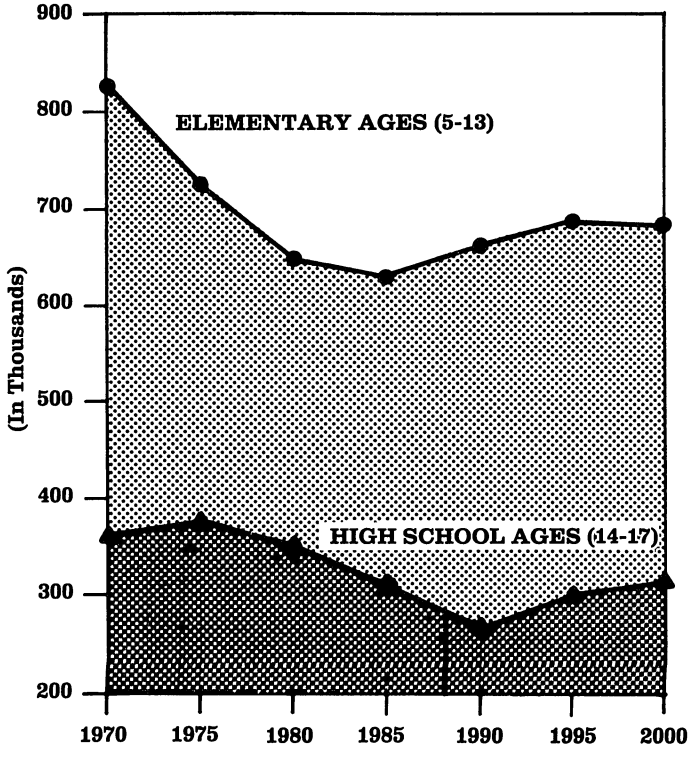


FIGURE 2

SCHOOL-AGE CHILDREN: 1970-2000
ELEMENTARY AND SECONDARY SCHOOL AGES



decline in high school enrollments probably will not bottom out until around 1990, when there will be an estimated 274 thousand 14-17 year-olds. This would be a drop of over 100 thousand persons (28 percent) since 1975. With the influx of baby-boom-echo students, high school enrollments should rise again in the 1990s. The high school age group is expected to grow by 12 percent between 1990 and 2000.

The relationship between public and private school enrollments is presented in Table 1 and Figure 3. There has been little change since 1970 in the proportion of Missouri students who attend private schools. This is true for all levels of instruction. Private elementary enrollments rose from 13.2 percent in 1970 to 13.8 percent in 1984. Private secondary enrollments fell from 11.7 percent in 1970 to 10.7 percent in 1984. Private college enrollments rose from 27.7 percent in 1970 to 29.5 percent in 1984.

TABLE 2

COLLEGE ENROLLMENTS AND THE TRADITIONAL COLLEGE-AGE POPULATION: 1970-2000
(In Thousands)

	1970	1975	1980	1983	1984	1985	1990	1995	2000
PERSONS (Ages 18-24)	522	611	636	624	611	603	526	488	505
ENROLLMENTS	184	223	234	248	241				

Sources: U.S. Bureau of the Census, National Center for Education Statistics and Missouri Division of Budget and Planning

TABLE 3

SCHOOL-AGE CHILDREN: 1970-2000
(In Thousands)

	1970	1975	1980	1985	1990	1995	2000
ELEMENTARY (Ages 5-13)	827	725	658	633	668	692	688
HIGH SCHOOL (Ages 14-17)	356	378	350	306	274	301	308

Sources: U.S. Bureau of the Census, Missouri Department of Elementary and Secondary Education and Division of Budget and Planning

FIGURE 3